April 12, 2012

LM4040/LM4040Q

Precision Micropower Shunt Voltage Reference

General Description

Ideal for space critical applications, the LM4040 precision voltage reference is available in the sub-miniature SC70 and SOT-23 surface-mount package. The LM4040's advanced design eliminates the need for an external stabilizing capacitor while ensuring stability with any capacitive load, thus making the LM4040 easy to use. Further reducing design effort is the availability of several fixed reverse breakdown voltages: 2.048V, 2.500V, 3.000V, 4.096V, 5.000V, 8.192V, and 10.000V. The minimum operating current increases from 60 µA for the LM4040-2.5 to 100 µA for the LM4040-10.0. All versions have a maximum operating current of 15 mA.

The LM4040 utilizes fuse and zener-zap reverse breakdown voltage trim during wafer sort to ensure that the prime parts have an accuracy of better than ±0.1% (A grade) at 25°C. Bandgap reference temperature drift curvature correction and low dynamic impedance ensure stable reverse breakdown voltage accuracy over a wide range of operating temperatures and currents.

Also available is the LM4041 with two reverse breakdown voltage versions: adjustable and 1.2V. Please see the LM4041 data sheet.

Features

- 2.5V/SOT-23 AEC Q-100 Grades 1 and 3 available
- Small packages: SOT-23, TO-92 and SC70
- No output capacitor required
- Tolerates capacitive loads
- Fixed reverse breakdown voltages of 2.048V, 2.500V, 3.000V, 4.096V, 5.000V, 8.192V, and 10.000V

Key Specifications (LM4040-2.5)

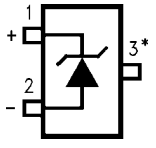
■ Output voltage tolerance (A grade, 25°C)	±0.1% (max)
■ Low output noise (10 Hz to 10 kHz)	35 μV_{rms} (typ)
■ Wide operating current range	60 µA to 15 mA
■ Industrial temperature range	−40°C to +85°C
■ Extended temperature range	−40°C to +125°C
■ Low temperature coefficient	100 ppm/°C (max)

Applications

- Portable, Battery-Powered Equipment
- Data Acquisition Systems
- Instrumentation
- Process Control
- Energy Management
- Product Testing
- Automotive
- Precision Audio Components

Connection Diagrams

SOT-23



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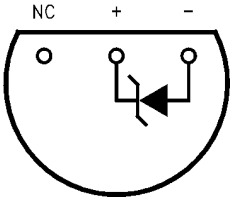
*This pin must be left floating or connected to pin 2.

Top View
See NS Package Number MF03A
(JEDEC Registration TO-236AB)

TO-92



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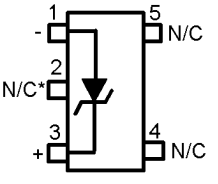
Bottom View
See NS Package Number Z03A

SC70



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*This pin must be left floating or connected to pin 1.

Top View
See NS Package Number MAA05A

Ordering Information for Industrial (I) and Extended (E) Temperature Grades

V_R Tolerance at 25°C and Average V_R Temperature Coefficient	Package				
	SOT-23 (MF03A)		SC70 (MAA05A)		TO-92 (Z03A)
	Reel of 1000 Units	Reel of 3000 Units	Reel of 1000 Units	Reel of 3000 Units	Box of 1800 Units
±0.1% 100 ppm/°C max −40°C to +85°C (A grade) (I temperature)	LM4040AIM3-2.0	LM4040AIM3X-2.0	—	—	—
	LM4040AIM3-2.5	LM4040AIM3X-2.5	—	—	LM4040AIZ-2.5
	LM4040AIM3-3.0	LM4040AIM3X-3.0	—	—	—
	LM4040AIM3-4.1	LM4040AIM3X-4.1	—	—	LM4040AIZ-4.1
	LM4040AIM3-5.0	LM4040AIM3X-5.0	—	—	LM4040AIZ-5.0
	—	—	—	—	—
	LM4040AIM3-10.0	LM4040AIM3X-10.0	—	—	LM4040AIZ-10.0
±0.2% 100 ppm/°C max −40°C to +85°C (B grade) (I temperature)	LM4040BIM3-2.0	LM4040BIM3X-2.0	LM4040BIM7-2.0	—	—
	LM4040BIM3-2.5	LM4040BIM3X-2.5	LM4040BIM7-2.5	LM4040BIM7X-2.5	LM4040BIZ-2.5
	LM4040BIM3-3.0	LM4040BIM3X-3.0	—	—	—
	LM4040BIM3-4.1	LM4040BIM3X-4.1	—	—	LM4040BIZ-4.1
	LM4040BIM3-5.0	LM4040BIM3X-5.0	LM4040BIM7-5.0	—	LM4040BIZ-5.0
	LM4040BIM3-8.2	—	—	—	—
	LM4040BIM3-10.0	LM4040BIM3X-10.0	—	—	LM4040BIZ-10.0
±0.5% 100 ppm/°C max −40°C to +125°C (C grade) (E temperature)	LM4040CEM3-2.5	—	—	—	—
	LM4040CEM3-3.0	LM4040CEM3X-3.0	—	—	—
	—	—	—	—	—
	LM4040CEM3-5.0	LM4040CEM3X-5.0	—	—	—
±0.5% 100 ppm/°C max −40°C to +85°C (C grade) (I temperature)	LM4040CIM3-2.0	LM4040CIM3X-2.0	LM4040CIM7-2.0	—	—
	LM4040CIM3-2.5	LM4040CIM3X-2.5	LM4040CIM7-2.5	LM4040CIM7X-2.5	LM4040CIZ-2.5
	LM4040CIM3-3.0	LM4040CIM3X-3.0	—	—	—
	LM4040CIM3-4.1	LM4040CIM3X-4.1	—	—	LM4040CIZ-4.1
	LM4040CIM3-5.0	LM4040CIM3X-5.0	—	—	LM4040CIZ-5.0
	LM4040CIM3-8.2	—	—	—	—
	LM4040CIM3-10.0	LM4040CIM3X-10.0	—	—	LM4040CIZ-10.0
±1.0% 150 ppm/°C max −40°C to +125°C (D grade) (E temperature)	LM4040DEM3-2.0	LM4040DEM3X-2.0	—	—	—
	LM4040DEM3-2.5	LM4040DEM3X-2.5	—	—	—
	LM4040DEM3-3.0	LM4040DEM3X-3.0	—	—	—
	—	—	—	—	—
	LM4040DEM3-5.0	LM4040DEM3X-5.0	—	—	—
±1.0% 150 ppm/°C max −40°C to +85°C (D grade) (I temperature)	LM4040DIM3-2.0	LM4040DIM3X-2.0	LM4040DIM7-2.0	—	—
	LM4040DIM3-2.5	LM4040DIM3X-2.5	LM4040DIM7-2.5	—	LM4040DIZ-2.5
	LM4040DIM3-3.0	LM4040DIM3X-3.0	—	—	—
	LM4040DIM3-4.1	LM4040DIM3X-4.1	—	—	LM4040DIZ-4.1
	LM4040DIM3-5.0	LM4040DIM3X-5.0	LM4040DIM7-5.0	—	LM4040DIZ-5.0
	LM4040DIM3-8.2	-	—	—	—
	LM4040DIM3-10.0	LM4040DIM3X-10.0	—	—	LM4040DIZ-10.0
±2.0% 150 ppm/°C max −40°C to +125°C (E grade) (E temperature)	—	—	—	—	—
	LM4040EEM3-2.5	LM4040EEM3X-2.5	—	—	—
	LM4040EEM3-3.0	LM4040EEM3X-3.0	—	—	—
±2.0% 150 ppm/°C max −40°C to +85°C (E grade) (I temperature)	—	—	LM4040EIM7–2.0	—	—
	LM4040EIM3-2.5	LM4040EIM3X-2.5	—	—	—
	LM4040EIM3-3.0	LM4040EIM3X-3.0	—	—	—

Ordering Information for Automotive AEC Q-100 (Q) Grade 1 and Grade 3

V_R Tolerance at 25°C and Average V_R Temperature Coefficient	Temperature Range (T_J)	Reel of 1000 Units	Reel of 3000 Units	Package
±0.1% 100 ppm/°C max (A grade)	−40 °C to +85°C AEC Grade 3	— LM4040QAIM3-2.5 —	— LM4040QAIM3X2.5 —	SOT-23 (MF03A)
±0.2% 100 ppm/°C max (B grade)	−40 °C to +85°C AEC Grade 3	— LM4040QBIM3-2.5 —	— LM4040QBIM3X2.5 —	SOT-23 (MF03A)
±0.5% 100 ppm/°C max (C grade)	−40 °C to +125°C AEC Grade 1	— LM4040QCEM3-2.5 —	— — —	SOT-23 (MF03A)
	−40 °C to +85°C AEC Grade 3	— LM4040QCIM3-2.5 —	— LM4040QCIM3X2.5 —	SOT-23 (MF03A)
±1.0% 150 ppm/°C max (D grade)	−40 °C to +125°C AEC Grade 1	— LM4040QDEM3-2.5 —	— — —	SOT-23 (MF03A)
	−40 °C to +85°C AEC Grade 3	— LM4040QDIM3-2.5 —	— LM4040QDIM3X-2.5 —	SOT-23 (MF03A)
±2.0% 150 ppm/°C max (E grade)	−40 °C to +125°C AEC Grade 1	— LM4040QEEM3-2.5 —	— — —	SOT-23 (MF03A)
	−40 °C to +85°C AEC Grade 3	— LM4040QEIM3-2.5 —	— LM4040QEIM3X2.5 —	SOT-23 (MF03A)

SOT-23 AND SC70 Package Marking Information

Only three fields of marking are possible on the SOT-23's and SC70's small surface. This table gives the meaning of the three fields.

First Field:
R = Reference

Second Field: Voltage Option
J = 2.048V Voltage Option
2 = 2.500V Voltage Option
K = 3.000V Voltage Option
4 = 4.096V Voltage Option
5 = 5.000V Voltage Option
8 = 8.192V Voltage Option
0 = 10.000V Voltage Option

Third Field: Initial Reverse Breakdown Voltage or Reference Voltage Tolerance
A = ±0.1%
B = ±0.2%
C = +0.5%
D = ±1.0%
E = ±2.0%

Part Marking	Field Definition
RJA (SOT-23 only)	Reference, 2.048V, ±0.1%
R2A (SOT-23 only)	Reference, 2.500V, ±0.1%
RKA (SOT-23 only	Reference, 3.000V, ±0.1%
R4A (SOT-23 only)	Reference, 4.096V, ±0.1%
R5A (SOT-23 only)	Reference, 5.000V, ±0.1%
R8A (SOT-23 only)	Reference, 8.192V, ±0.1%
R0A (SOT-23 only)	Reference, 10.000V, ±0.1%
RJB	Reference, 2.048V, ±0.2%
R2B	Reference, 2.500V, ±0.2%
RKB	Reference, 3.000V, ±0.2%
R4B	Reference, 4.096V, ±0.2%
R5B	Reference, 5.000V, ±0.2%
R8B (SOT-23 only)	Reference, 8.192V, ±0.2%
R0B (SOT-23 only)	Reference, 10.000V, ±0.2%
RJC	Reference, 2.048V, ±0.5%
R2C	Reference, 2.500V, ±0.5%
RKC	Reference, 3.000V, ±0.5%
R4C	Reference, 4.096V, ±0.5%
R5C	Reference, 5.000V, ±0.5%
R8C (SOT-23 only)	Reference, 8.192V, ±0.5%
R0C (SOT-23 only)	Reference, 10.000V, ±0.5%
RJD	Reference, 2.048V, ±1.0%
R2D	Reference, 2.500V, ±1.0%
RKD	Reference, 3.000V, ±1.0%
R4D	Reference, 4.096V, ±1.0%
R5D	Reference, 5.000V, ±1.0%
R8D (SOT-23 only)	Reference, 8.192V, ±1.0%
R0D (SOT-23 only)	Reference, 10.000V, ±1.0%
RJE	Reference, 2.048V, ±2.0%
R2E	Reference, 2.500V, ±2.0%
RKE	Reference, 3.000V, ±2.0%

Absolute Maximum Ratings (*Note 1*)

If Military/Aerospace specified devices are required, please contact the Texas Instruments Sales Office/ Distributors for availability and specifications.

Reverse Current	20 mA
Forward Current	10 mA
Power Dissipation (T_A = 25°C) (*Note 2*)	
M3 Package	306 mW
Z Package	550 mW
M7 Package	241 mW
Storage Temperature	−65°C to +150°C
Lead Temperature	
M3 Package	
Vapor phase (60 seconds)	+215°C
Infrared (15 seconds)	+220°C
Z Package	
Soldering (10 seconds)	+260°C
ESD Susceptibility	
Human Body Model (*Note 3*)	2 kV
Machine Model (*Note 3*)	200V

See AN-450 “Surface Mounting Methods and Their Effect on Product Reliability” for other methods of soldering surface mount devices.

Operating Ratings (*Note 1*, *Note 2*)

Temperature Range	($T_{min} \le T_A \le T_{max}$)
Industrial Temperature Range	−40°C ≤ T_A ≤ +85°C
Extended Temperature Range	−40°C ≤ T_A ≤ +125°C
Reverse Current	
LM4040-2.0	60 µA to 15 mA
LM4040-2.5	60 µA to 15 mA
LM4040-3.0	62 µA to 15 mA
LM4040-4.1	68 µA to 15 mA
LM4040-5.0	74 µA to 15 mA
LM4040-8.2	91 µA to 15 mA
LM4040-10.0	100 µA to 15 mA

LM4040-2.0 Electrical Characteristics
V_R Tolerance Grades 'A' and 'B'; Temperature Grade 'I'

Boldface limits apply for $T_A = T_J = T_{MIN}$ to T_{MAX}; all other limits $T_A = T_J$ = 25°C. The grades A and B designate initial Reverse Breakdown Voltage tolerances of ±0.1% and ±0.2%, respectively.

Symbol	Parameter	Conditions	Typical (*Note 4*)	LM4040AIM3 LM4040AIZ — Limits (*Note 5*)	LM4040BIM3 LM4040BIZ LM4040BIM7 Limits (*Note 5*)	Units
V_R	Reverse Breakdown Voltage	I_R = 100 µA	2.048			V
	Reverse Breakdown Voltage Tolerance (*Note 6*)	I_R = 100 µA		±2.0	±4.1	mV (max)
				±15	**±17**	mV (max)
I_{RMIN}	Minimum Operating Current		45			µA
				60	60	µA (max)
				65	**65**	µA (max)
$\Delta V_R/\Delta T$	Average Reverse Breakdown Voltage Temperature Coefficient (*Note 6*)	I_R = 10 mA	±20			ppm/°C
		I_R = 1 mA	±15	**±100**	**±100**	ppm/°C (max)
		I_R = 100 µA	±15			ppm/°C
$\Delta V_R/\Delta I_R$	Reverse Breakdown Voltage Change with Operating Current Change (*Note 7*)	$I_{RMIN} \le I_R \le$ 1 mA	0.3			mV
				0.8	0.8	mV (max)
				1.0	**1.0**	mV (max)
		1 mA ≤ $I_R \le$ 15 mA	2.5			mV
				6.0	6.0	mV (max)
				8.0	**8.0**	mV (max)
Z_R	Reverse Dynamic Impedance	I_R = 1 mA, f = 120 Hz, I_{AC} = 0.1 I_R	0.3			Ω
				0.8	0.8	Ω (max)
e_N	Wideband Noise	I_R = 100 µA 10 Hz ≤ f ≤ 10 kHz	35			μV_{rms}

Symbol	Parameter	Conditions	Typical (Note 4)	LM4040AIM3 LM4040AIZ — Limits (Note 5)	LM4040BIM3 LM4040BIZ LM4040BIM7 Limits (Note 5)	Units
ΔV_R	Reverse Breakdown Voltage Long Term Stability	t = 1000 hrs T = 25°C ±0.1°C I_R = 100 µA	120			ppm
V_{HYST}	Thermal Hysteresis (Note 8)	ΔT = −40°C to +125°C	0.08			%

LM4040-2.0 Electrical Characteristics
V_R Tolerance Grades 'C', 'D', and 'E'; Temperature Grade 'I'

Boldface limits apply for $T_A = T_J = T_{MIN}$ to T_{MAX}; all other limits $T_A = T_J$ = 25°C. The grades C, D and E designate initial Reverse Breakdown Voltage tolerances of ±0.5%, ±1.0% and ±2.0%, respectively.

Symbol	Parameter	Conditions	Typical (Note 4)	LM4040CIM3 LM4040CIZ LM4040CIM7 Limits (Note 5)	LM4040DIM3 LM4040DIZ LM4040DIM7 Limits (Note 5)	— LM4040EIZ LM4040EIM7 Limits (Note 5)	Units
V_R	Reverse Breakdown Voltage	I_R = 100 µA	2.048				V
	Reverse Breakdown Voltage Tolerance (Note 6)	I_R = 100 µA		±10	±20	±41	mV (max)
				±23	**±40**	**±60**	mV (max)
I_{RMIN}	Minimum Operating Current		45				µA
				60	65	65	µA (max)
				65	**70**	**70**	µA (max)
$\Delta V_R/\Delta T$	Average Reverse Breakdown Voltage Temperature Coefficient (Note 6)	I_R = 10 mA	±20				ppm/°C
		I_R = 1 mA	±15	**±100**	**±150**	**±150**	ppm/°C (max)
		I_R = 100 µA	±15				ppm/°C
$\Delta V_R/\Delta I_R$	Reverse Breakdown Voltage Change with Operating Current Change (Note 7)	$I_{RMIN} \le I_R \le$ 1 mA	0.3				mV
				0.8	1.0	1.0	mV (max)
				1.0	**1.2**	**1.2**	mV (max)
		1 mA ≤ $I_R \le$ 15 mA	2.5				mV
				6.0	8.0	8.0	mV (max)
				8.0	**10.0**	**10.0**	mV (max)
Z_R	Reverse Dynamic Impedance	I_R = 1 mA, f = 120 Hz I_{AC} = 0.1 I_R	0.3				Ω
				0.9	1.1	1.1	Ω(max)
e_N	Wideband Noise	I_R = 100 µA 10 Hz ≤ f ≤ 10 kHz	35				μV_{rms}
ΔV_R	Reverse Breakdown Voltage Long Term Stability	t = 1000 hrs T = 25°C ±0.1°C I_R = 100 µA	120				ppm
V_{HYST}	Thermal Hysteresis (Note 8)	ΔT = −40°C to +125°C	0.08				%

LM4040-2.0 Electrical Characteristics
V_R Tolerance Grades 'C', 'D', and 'E'; Temperature Grade 'E'

Boldface limits apply for $T_A = T_J = T_{MIN}$ to T_{MAX}; all other limits $T_A = T_J = 25°C$. The grades C, D and E designate initial Reverse Breakdown Voltage tolerances of ±0.5%, ±1.0% and ±2.0%, respectively.

Symbol	Parameter	Conditions	Typical (*Note 4*)	LM4040CEM3 Limits (*Note 5*)	LM4040DEM3 Limits (*Note 5*)	LM4040EEM3 Limits (*Note 5*)	Units
V_R	Reverse Breakdown Voltage	I_R = 100 µA	2.048				V
	Reverse Breakdown Voltage Tolerance (*Note 6*)	I_R = 100 µA		±10	±20	±41	mV (max)
				±30	**±50**	**±70**	mV (max)
I_{RMIN}	Minimum Operating Current		45				µA
				60	65	65	µA (max)
				68	**73**	**73**	µA (max)
$\Delta V_R/\Delta T$	Average Reverse Breakdown Voltage Temperature Coefficient (*Note 6*)	I_R = 10 mA	±20				ppm/°C
		I_R = 1 mA	±15	**±100**	**±150**	**±150**	ppm/°C (max)
		I_R = 100 µA	±15				ppm/°C
$\Delta V_R/\Delta I_R$	Reverse Breakdown Voltage Change with Operating Current Change (*Note 7*)	$I_{RMIN} \le I_R \le$ 1 mA	0.3				mV
				0.8	1.0	1.0	mV (max)
				1.0	**1.2**	**1.2**	mV (max)
		1 mA $\le I_R \le$ 15 mA	2.5				mV
				6.0	8.0	8.0	mV (max)
				8.0	**10.0**	**10.0**	mV (max)
Z_R	Reverse Dynamic Impedance	I_R = 1 mA, f = 120 Hz, $I_{AC} = 0.1\ I_R$	0.3				Ω
				0.9	1.1	1.1	Ω (max)
e_N	Wideband Noise	I_R = 100 µA 10 Hz ≤ f ≤ 10 kHz	35				μV_{rms}
ΔV_R	Reverse Breakdown Voltage Long Term Stability	t = 1000 hrs T = 25°C ±0.1°C I_R = 100 µA	120				ppm
V_{HYST}	Thermal Hysteresis (*Note 8*)	ΔT = −40°C to +125°C	0.08				%

LM4040-2.5 Electrical Characteristics
V_R Tolerance Grades 'A' and 'B'; Temperature Grade 'I' (AEC Grade 3)

Boldface limits apply for $T_A = T_J = T_{MIN}$ to T_{MAX}; all other limits $T_A = T_J = 25°C$. The grades A and B designate initial Reverse Breakdown Voltage tolerances of ±0.1% and ±0.2%, respectively.

Symbol	Parameter	Conditions	Typical (*Note 4*)	LM4040AIM3 LM4040AIZ — LM4040QAIM3 Limits (*Note 5*)	LM4040BIM3 LM4040BIZ LM4040BIM7 LM4040QBIM3 Limits (*Note 5*)	Units
V_R	Reverse Breakdown Voltage	I_R = 100 µA	2.500			V
	Reverse Breakdown Voltage Tolerance (*Note 6*)	I_R = 100 µA		±2.5	±5.0	mV (max)
				±19	**±21**	mV (max)
I_{RMIN}	Minimum Operating Current		45			µA
				60	60	µA (max)
				65	**65**	µA (max)
$\Delta V_R/\Delta T$	Average Reverse Breakdown Voltage Temperature Coefficient (*Note 6*)	I_R = 10 mA	±20			ppm/°C
		I_R = 1 mA	±15	**±100**	**±100**	ppm/°C (max)
		I_R = 100 µA	±15			ppm/°C
$\Delta V_R/\Delta I_R$	Reverse Breakdown Voltage Change with Operating Current Change (*Note 7*)	$I_{RMIN} \le I_R \le$ 1 mA	0.3			mV
				0.8	0.8	mV (max)
				1.0	**1.0**	mV (max)
		1 mA ≤ $I_R \le$ 15 mA	2.5			mV
				6.0	6.0	mV (max)
				8.0	**8.0**	mV (max)
Z_R	Reverse Dynamic Impedance	I_R = 1 mA, f = 120 Hz, I_{AC} = 0.1 I_R	0.3			Ω
				0.8	0.8	Ω (max)
e_N	Wideband Noise	I_R = 100 µA 10 Hz ≤ f ≤ 10 kHz	35			μV_{rms}
ΔV_R	Reverse Breakdown Voltage Long Term Stability	t = 1000 hrs T = 25°C ±0.1°C I_R = 100 µA	120			ppm
V_{HYST}	Thermal Hysteresis (*Note 8*)	ΔT = −40°C to +125°C	0.08			%

LM4040-2.5 Electrical Characteristics
V_R Tolerance Grades 'C', 'D', and 'E'; Temperature Grade 'I' (AEC Grade 3)

Boldface limits apply for $T_A = T_J = T_{MIN}$ to T_{MAX}; all other limits $T_A = T_J = 25°C$. The grades C, D and E designate initial Reverse Breakdown Voltage tolerances of ±0.5%, ±1.0% and ±2.0%, respectively.

Symbol	Parameter	Conditions	Typical (*Note 4*)	LM4040CIZ LM4040CIM3 LM4040CIM7 LM4040QCIM3 Limits (*Note 5*)	LM4040DIZ LM4040DIM3 LM4040DIM7 LM4040QDIM3 Limits (*Note 5*)	LM4040EIZ LM4040EIM3 LM4040EIM7 LM4040QEIM3 Limits (*Note 5*)	Units
V_R	Reverse Breakdown Voltage	I_R = 100 µA	2.500				V
	Reverse Breakdown Voltage Tolerance (*Note 6*)	I_R = 100 µA		±12	±25	±50	mV (max)
				±29	**±49**	**±74**	mV (max)
I_{RMIN}	Minimum Operating Current		45				µA
				60	65	65	µA (max)
				65	**70**	**70**	µA (max)
$\Delta V_R/\Delta T$	Average Reverse Breakdown Voltage Temperature Coefficient (*Note 6*)	I_R = 10 mA	±20				ppm/°C
		I_R = 1 mA	±15	**±100**	**±150**	**±150**	ppm/°C (max)
		I_R = 100 µA	±15				ppm/°C
$\Delta V_R/\Delta I_R$	Reverse Breakdown Voltage Change with Operating Current Change (*Note 7*)	$I_{RMIN} \le I_R \le$ 1 mA	0.3				mV
				0.8	1.0	1.0	mV (max)
				1.0	**1.2**	**1.2**	mV (max)
		1 mA ≤ $I_R \le$ 15 mA	2.5				mV
				6.0	8.0	8.0	mV (max)
				8.0	**10.0**	**10.0**	mV (max)
Z_R	Reverse Dynamic Impedance	I_R = 1 mA, f = 120 Hz I_{AC} = 0.1 I_R	0.3				Ω
				0.9	1.1	1.1	Ω(max)
e_N	Wideband Noise	I_R = 100 µA 10 Hz ≤ f ≤ 10 kHz	35				μV_{rms}
ΔV_R	Reverse Breakdown Voltage Long Term Stability	t = 1000 hrs T = 25°C ±0.1°C I_R = 100 µA	120				ppm
V_{HYST}	Thermal Hysteresis (*Note 8*)	ΔT= −40°C to +125°C	0.08				%

LM4040-2.5 Electrical Characteristics
V_R Tolerance Grades 'C', 'D', and 'E'; Temperature Grade 'E' (AEC Grade 1)

Boldface limits apply for $T_A = T_J = T_{MIN}$ to T_{MAX}; all other limits $T_A = T_J = 25°C$. The grades C, D and E designate initial Reverse Breakdown Voltage tolerances of ±0.5%, ±1.0% and ±2.0%, respectively.

Symbol	Parameter	Conditions	Typical (*Note 4*)	LM4040CEM3 LM4040QCEM3 Limits (*Note 5*)	LM4040DEM3 LM4040QDEM3 Limits (*Note 5*)	LM4040EEM3 LM4040QEEM3 Limits (*Note 5*)	Units
V_R	Reverse Breakdown Voltage	I_R = 100 µA	2.500				V
	Reverse Breakdown Voltage Tolerance (*Note 6*)	I_R = 100 µA		±12	±25	±50	mV (max)
				±38	**±63**	**±88**	mV (max)
I_{RMIN}	Minimum Operating Current		45				µA
				60	65	65	µA (max)
				68	**73**	**73**	µA (max)
$\Delta V_R/\Delta T$	Average Reverse Breakdown Voltage Temperature Coefficient (*Note 6*)	I_R = 10 mA	±20				ppm/°C
		I_R = 1 mA	±15	**±100**	**±150**	**±150**	ppm/°C (max)
		I_R = 100 µA	±15				ppm/°C
$\Delta V_R/\Delta I_R$	Reverse Breakdown Voltage Change with Operating Current Change (*Note 7*)	$I_{RMIN} \le I_R \le$ 1 mA	0.3				mV
				0.8	1.0	1.0	mV (max)
				1.0	**1.2**	**1.2**	mV (max)
		1 mA ≤ $I_R \le$ 15 mA	2.5				mV
				6.0	8.0	8.0	mV (max)
				8.0	**10.0**	**10.0**	mV (max)
Z_R	Reverse Dynamic Impedance	I_R = 1 mA, f = 120 Hz, I_{AC} = 0.1 I_R	0.3				Ω
				0.9	1.1	1.1	Ω (max)
e_N	Wideband Noise	I_R = 100 µA 10 Hz ≤ f ≤ 10 kHz	35				μV_{rms}
ΔV_R	Reverse Breakdown Voltage Long Term Stability	t = 1000 hrs T = 25°C ±0.1°C I_R = 100 µA	120				ppm
V_{HYST}	Thermal Hysteresis (*Note 8*)	ΔT= −40°C to +125°C	0.08				%

LM4040-3.0 Electrical Characteristics
V_R Tolerance Grades 'A' and 'B'; Temperature Grade 'I'

Boldface limits apply for $T_A = T_J = T_{MIN}$ to T_{MAX}; all other limits $T_A = T_J = 25°C$. The grades A and B designate initial Reverse Breakdown Voltage tolerances of ±0.1% and ±0.2%, respectively.

Symbol	Parameter	Conditions	Typical (*Note 4*)	LM4040AIM3 LM4040AIZ — Limits (*Note 5*)	LM4040BIM3 LM4040BIZ LM4040BIM7 Limits (*Note 5*)	Units
V_R	Reverse Breakdown Voltage	I_R = 100 µA	3.000			V
	Reverse Breakdown Voltage Tolerance (*Note 6*)	I_R = 100 µA		±3.0	±6.0	mV (max)
				±22	**±26**	mV (max)
I_{RMIN}	Minimum Operating Current		47			µA
				62	62	µA (max)
				67	**67**	µA (max)
$\Delta V_R/\Delta T$	Average Reverse Breakdown Voltage Temperature Coefficient (*Note 6*)	I_R = 10 mA	±20			ppm/°C
		I_R = 1 mA	±15	**±100**	**±100**	ppm/°C (max)
		I_R = 100 µA	±15			ppm/°C
$\Delta V_R/\Delta I_R$	Reverse Breakdown Voltage Change with Operating Current Change (*Note 7*)	$I_{RMIN} \le I_R \le$ 1 mA	0.6			mV
				0.8	0.8	mV (max)
				1.1	**1.1**	mV (max)
		1 mA $\le I_R \le$ 15 mA	2.7			mV
				6.0	6.0	mV (max)
				9.0	**9.0**	mV (max)
Z_R	Reverse Dynamic Impedance	I_R = 1 mA, f = 120 Hz, $I_{AC} = 0.1\ I_R$	0.4			Ω
				0.9	0.9	Ω (max)
e_N	Wideband Noise	I_R = 100 µA 10 Hz ≤ f ≤ 10 kHz	35			μV_{rms}
ΔV_R	Reverse Breakdown Voltage Long Term Stability	t = 1000 hrs T = 25°C ±0.1°C I_R = 100 µA	120			ppm
V_{HYST}	Thermal Hysteresis (*Note 8*)	ΔT = −40°C to +125°C	0.08			%

LM4040-3.0 Electrical Characteristics
V_R Tolerance Grades 'C', 'D', and 'E'; Temperature Grade 'I'

Boldface limits apply for $T_A = T_J = T_{MIN}$ to T_{MAX}; all other limits $T_A = T_J = 25°C$. The grades C, D and E designate initial Reverse Breakdown Voltage tolerances of ±0.5%, ±1.0% and ±2.0%, respectively.

Symbol	Parameter	Conditions	Typical (*Note 4*)	LM4040CIM3 LM4040CIZ LM4040CIM7 Limits (*Note 5*)	LM4040DIM3 LM4040DIZ LM4040DIM7 Limits (*Note 5*)	LM4040EIM7 LM4040EIZ — Limits (*Note 5*)	Units
V_R	Reverse Breakdown Voltage	I_R = 100 µA	3.000				V
	Reverse Breakdown Voltage Tolerance (*Note 6*)	I_R = 100 µA		±15	±30	±60	mV (max)
				±34	**±59**	**±89**	mV (max)
I_{RMIN}	Minimum Operating Current		45				µA
				60	65	65	µA (max)
				65	**70**	**70**	µA (max)
$\Delta V_R/\Delta T$	Average Reverse Breakdown Voltage Temperature Coefficient (*Note 6*)	I_R = 10 mA	±20				ppm/°C
		I_R = 1 mA	±15	**±100**	**±150**	**±150**	ppm/°C (max)
		I_R = 100 µA	±15				ppm/°C
$\Delta V_R/\Delta I_R$	Reverse Breakdown Voltage Change with Operating Current Change (*Note 7*)	$I_{RMIN} \le I_R \le 1$ mA	0.4				mV
				0.8	1.1	1.1	mV (max)
				1.1	**1.3**	**1.3**	mV (max)
		1 mA ≤ I_R ≤ 15 mA	2.7				mV
				6.0	8.0	8.0	mV (max)
				9.0	**11.0**	**11.0**	mV (max)
Z_R	Reverse Dynamic Impedance	I_R = 1 mA, f = 120 Hz I_{AC} = 0.1 I_R	0.4				Ω
				0.9	1.2	1.2	Ω(max)
e_N	Wideband Noise	I_R = 100 µA 10 Hz ≤ f ≤ 10 kHz	35				μV_{rms}
ΔV_R	Reverse Breakdown Voltage Long Term Stability	t = 1000 hrs T = 25°C ±0.1°C I_R = 100 µA	120				ppm
V_{HYST}	Thermal Hysteresis (*Note 8*)	ΔT = −40°C to +125°C	0.08				%

LM4040-3.0 Electrical Characteristics
V_R Tolerance Grades 'C', 'D', and 'E'; Temperature Grade 'E'

Boldface limits apply for $T_A = T_J = T_{MIN}$ to T_{MAX}; all other limits $T_A = T_J = 25°C$. The grades C, D and E designate initial Reverse Breakdown Voltage tolerances of ±0.5%, ±1.0% and ±2.0%, respectively.

Symbol	Parameter	Conditions	Typical (*Note 4*)	LM4040CEM3 Limits (*Note 5*)	LM4040DEM3 Limits (*Note 5*)	LM4040EEM3 Limits (*Note 5*)	Units
V_R	Reverse Breakdown Voltage	I_R = 100 µA	3.000				V
	Reverse Breakdown Voltage Tolerance (*Note 6*)	I_R = 100 µA		±15	±30	±60	mV (max)
				±45	**±75**	**±105**	mV (max)
I_{RMIN}	Minimum Operating Current		47				µA
				62	67	67	µA (max)
				70	**75**	**75**	µA (max)
$\Delta V_R/\Delta T$	Average Reverse Breakdown Voltage Temperature Coefficient (*Note 6*)	I_R = 10 mA	±20				ppm/°C
		I_R = 1 mA	±15	**±100**	**±150**	**±150**	ppm/°C (max)
		I_R = 100 µA	±15				ppm/°C
$\Delta V_R/\Delta I_R$	Reverse Breakdown Voltage Change with Operating Current Change (*Note 7*)	$I_{RMIN} \le I_R \le$ 1 mA	0.4				mV
				0.8	1.1	1.1	mV (max)
				1.1	**1.3**	**1.3**	mV (max)
		1 mA ≤ $I_R \le$ 15 mA	2.7				mV
				6.0	8.0	8.0	mV (max)
				9.0	**11.0**	**11.0**	mV (max)
Z_R	Reverse Dynamic Impedance	I_R = 1 mA, f = 120 Hz, I_{AC} = 0.1 I_R	0.4				Ω
				0.9	1.2	1.2	Ω (max)
e_N	Wideband Noise	I_R = 100 µA 10 Hz ≤ f ≤ 10 kHz	35				μV_{rms}
ΔV_R	Reverse Breakdown Voltage Long Term Stability	t = 1000 hrs T = 25°C ±0.1°C I_R = 100 µA	120				ppm
V_{HYST}	Thermal Hysteresis (*Note 8*)	ΔT = −40°C to +125°C	0.08				%

LM4040-4.1 Electrical Characteristics
V_R Tolerance Grades 'A' and 'B'; Temperature Grade 'I'

Boldface limits apply for $T_A = T_J = T_{MIN}$ to T_{MAX}; all other limits $T_A = T_J = 25°C$. The grades A and B designate initial Reverse Breakdown Voltage tolerances of ±0.1% and ±0.2%, respectively.

Symbol	Parameter	Conditions	Typical (*Note 4*)	LM4040AIM3 LM4040AIZ — Limits (*Note 5*)	LM4040BIM3 LM4040BIZ LM4040BIM7 Limits (*Note 5*)	Units
V_R	Reverse Breakdown Voltage	I_R = 100 µA	4.096			V
	Reverse Breakdown Voltage Tolerance (*Note 6*)	I_R = 100 µA		±4.1	±8.2	mV (max)
				±31	**±35**	mV (max)
I_{RMIN}	Minimum Operating Current		50			µA
				68	68	µA (max)
				73	**73**	µA (max)
$\Delta V_R/\Delta T$	Average Reverse Breakdown Voltage Temperature Coefficient (*Note 6*)	I_R = 10 mA	±30			ppm/°C
		I_R = 1 mA	±20	**±100**	**±100**	ppm/°C (max)
		I_R = 100 µA	±20			ppm/°C
$\Delta V_R/\Delta I_R$	Reverse Breakdown Voltage Change with Operating Current Change (*Note 7*)	$I_{RMIN} \le I_R \le$ 1 mA	0.5			mV
				0.9	0.9	mV (max)
				1.2	**1.2**	mV (max)
		1 mA ≤ $I_R \le$ 15 mA	3.0			mV
				7.0	7.0	mV (max)
				10.0	**10.0**	mV (max)
Z_R	Reverse Dynamic Impedance	I_R = 1 mA, f = 120 Hz, I_{AC} = 0.1 I_R	0.5			Ω
				1.0	1.0	Ω (max)
e_N	Wideband Noise	I_R = 100 µA 10 Hz ≤ f ≤ 10 kHz	80			μV_{rms}
ΔV_R	Reverse Breakdown Voltage Long Term Stability	t = 1000 hrs T = 25°C ±0.1°C I_R = 100 µA	120			ppm
V_{HYST}	Thermal Hysteresis (*Note 8*)	ΔT = −40°C to +125°C	0.08			%

LM4040-4.1 Electrical Characteristics
V_R Tolerance Grades 'C' and 'D'; Temperature Grade 'I'

Boldface limits apply for $T_A = T_J = T_{MIN}$ to T_{MAX}; all other limits $T_A = T_J = 25°C$. The grades C and D designate initial Reverse Breakdown Voltage tolerances of ±0.5% and ±1.0%, respectively.

Symbol	Parameter	Conditions	Typical (*Note 4*)	LM4040CIM3 LM4040CIZ LM4040CIM7 Limits (*Note 5*)	LM4040DIM3 LM4040DIZ LM4040DIM7 Limits (*Note 5*)	Units
V_R	Reverse Breakdown Voltage	I_R = 100 µA	4.096			V
	Reverse Breakdown Voltage Tolerance (*Note 6*)	I_R = 100 µA		±20	±41	mV (max)
				±47	**±81**	mV (max)
I_{RMIN}	Minimum Operating Current		50			µA
				68	73	µA (max)
				73	**78**	µA (max)
$\Delta V_R/\Delta T$	Average Reverse Breakdown Voltage Temperature Coefficient (*Note 6*)	I_R = 10 mA	±30			ppm/°C
		I_R = 1 mA	±20	**±100**	**±150**	ppm/°C (max)
		I_R = 100 µA	±20			ppm/°C
$\Delta V_R/\Delta I_R$	Reverse Breakdown Voltage Change with Operating Current Change (*Note 7*)	$I_{RMIN} \le I_R \le$ 1 mA	0.5			mV
				0.9	1.2	mV (max)
				1.2	**1.5**	mV (max)
		1 mA ≤ $I_R \le$ 15 mA	3.0			mV
				7.0	9.0	mV (max)
				10.0	**13.0**	mV (max)
Z_R	Reverse Dynamic Impedance	I_R = 1 mA, f = 120 Hz, $I_{AC} = 0.1\ I_R$	0.5			Ω
				1.0	1.3	Ω (max)
e_N	Wideband Noise	I_R = 100 µA 10 Hz ≤ f ≤ 10 kHz	80			μV_{rms}
ΔV_R	Reverse Breakdown Voltage Long Term Stability	t = 1000 hrs T = 25°C ±0.1°C I_R = 100 µA	120			ppm
V_{HYST}	Thermal Hysteresis (*Note 8*)	ΔT = −40°C to +125°C	0.08			%

LM4040-5.0 Electrical Characteristics
V_R Tolerance Grades 'A' and 'B'; Temperature Grade 'I'

Boldface limits apply for $T_A = T_J = T_{MIN}$ to T_{MAX}; all other limits $T_A = T_J = 25°C$. The grades A and B designate initial Reverse Breakdown Voltage tolerances of ±0.1% and ±0.2%, respectively.

Symbol	Parameter	Conditions	Typical (*Note 4*)	LM4040AIM3 LM4040AIZ — Limits (*Note 5*)	LM4040BIM3 LM4040BIZ LM4040BIM7 Limits (*Note 5*)	Units
V_R	Reverse Breakdown Voltage	I_R = 100 µA	5.000			V
	Reverse Breakdown Voltage Tolerance (*Note 6*)	I_R = 100 µA		±5.0	±10	mV (max)
				±38	**±43**	mV (max)
I_{RMIN}	Minimum Operating Current		54			µA
				74	74	µA (max)
				80	**80**	µA (max)
$\Delta V_R/\Delta T$	Average Reverse Breakdown Voltage Temperature Coefficient (*Note 6*)	I_R = 10 mA	±30			ppm/°C
		I_R = 1 mA	±20	**±100**	**±100**	ppm/°C (max)
		I_R = 100 µA	±20			ppm/°C
$\Delta V_R/\Delta I_R$	Reverse Breakdown Voltage Change with Operating Current Change (*Note 7*)	$I_{RMIN} \le I_R \le$ 1 mA	0.5			mV
				1.0	1.0	mV (max)
				1.4	**1.4**	mV (max)
		1 mA ≤ $I_R \le$ 15 mA	3.5			mV
				8.0	8.0	mV (max)
				12.0	**12.0**	mV (max)
Z_R	Reverse Dynamic Impedance	I_R = 1 mA, f = 120 Hz, I_{AC} = 0.1 I_R	0.5			Ω
				1.1	1.1	Ω (max)
e_N	Wideband Noise	I_R = 100 µA 10 Hz ≤ f ≤ 10 kHz	80			μV_{rms}
ΔV_R	Reverse Breakdown Voltage Long Term Stability	t = 1000 hrs T = 25°C ±0.1°C I_R = 100 µA	120			ppm
V_{HYST}	Thermal Hysteresis (*Note 8*)	ΔT = −40°C to +125°C	0.08			%

LM4040-5.0 Electrical Characteristics
V_R Tolerance Grades 'C' and 'D'; Temperature Grade 'I'

Boldface limits apply for $T_A = T_J = T_{MIN}$ to T_{MAX}; all other limits $T_A = T_J = 25°C$. The grades C and D designate initial Reverse Breakdown Voltage tolerances of ±0.5% and ±1.0%, respectively.

Symbol	Parameter	Conditions	Typical (*Note 4*)	LM4040CIM3 LM4040CIZ LM4040CIM7 Limits (*Note 5*)	LM4040DIM3 LM4040DIZ LM4040DIM7 Limits (*Note 5*)	Units
V_R	Reverse Breakdown Voltage	I_R = 100 µA	5.000			V
	Reverse Breakdown Voltage Tolerance (*Note 6*)	I_R = 100 µA		±25	±50	mV (max)
				±58	**±99**	mV (max)
I_{RMIN}	Minimum Operating Current		54			µA
				74	79	µA (max)
				80	**85**	µA (max)
$\Delta V_R/\Delta T$	Average Reverse Breakdown Voltage Temperature Coefficient (*Note 6*)	I_R = 10 mA	±30			ppm/°C
		I_R = 1 mA	±20	**±100**	**±150**	ppm/°C (max)
		I_R = 100 µA	±20			ppm/°C
$\Delta V_R/\Delta I_R$	Reverse Breakdown Voltage Change with Operating Current Change (*Note 7*)	$I_{RMIN} \le I_R \le$ 1 mA	0.5			mV
				1.0	1.3	mV (max)
				1.4	**1.8**	mV (max)
		1 mA ≤ $I_R \le$ 15 mA	3.5			mV
				8.0	10.0	mV (max)
				12.0	**15.0**	mV (max)
Z_R	Reverse Dynamic Impedance	I_R = 1 mA, f = 120 Hz, $I_{AC} = 0.1\ I_R$	0.5			Ω
				1.1	1.5	Ω (max)
e_N	Wideband Noise	I_R = 100 µA 10 Hz ≤ f ≤ 10 kHz	80			μV_{rms}
ΔV_R	Reverse Breakdown Voltage Long Term Stability	t = 1000 hrs T = 25°C ±0.1°C I_R = 100 µA	120			ppm
V_{HYST}	Thermal Hysteresis (*Note 8*)	ΔT = −40°C to +125°C	0.08			%

LM4040-5.0 Electrical Characteristics
V_R Tolerance Grades 'C' and 'D'; Temperature Grade 'E'

Boldface limits apply for $T_A = T_J = T_{MIN}$ to T_{MAX}; all other limits $T_A = T_J = 25°C$. The grades C and D designate initial Reverse Breakdown Voltage tolerances of ±0.5% and ±1.0%, respectively.

Symbol	Parameter	Conditions	Typical	LM4040CEM3 Limits (*Note 5*)	LM4040DEM3 Limits (*Note 5*)	Units
V_R	Reverse Breakdown Voltage	I_R = 100 µA	5.000			V
	Reverse Breakdown Voltage Tolerance (*Note 6*)	I_R = 100 µA		±25	±50	mV (max)
				±75	**±125**	mV (max)
I_{RMIN}	Minimum Operating Current		54			µA
				74	79	µA (max)
				83	**88**	µA (max)
$\Delta V_R/\Delta T$	Average Reverse Breakdown Voltage Temperature Coefficient (*Note 6*)	I_R = 10 mA	±30			ppm/°C
		I_R = 1 mA	±20	**±100**	**±150**	ppm/°C (max)
		I_R = 100 µA	±20			ppm/°C
$\Delta V_R/\Delta I_R$	Reverse Breakdown Voltage Change with Operating Current Change (*Note 7*)	$I_{RMIN} \le I_R \le$ 1 mA	0.5			mV
				1.0	1.0	mV (max)
				1.4	**1.8**	mV (max)
		1 mA ≤ $I_R \le$ 15 mA	3.5			mV
				8.0	8.0	mV (max)
				12.0	**15.0**	mV (max)
Z_R	Reverse Dynamic Impedance	I_R = 1 mA, f = 120 Hz, I_{AC} = 0.1 I_R	0.5			Ω
				1.1	1.1	Ω (max)
e_N	Wideband Noise	I_R = 100 µA 10 Hz ≤ f ≤ 10 kHz	80			μV_{rms}
ΔV_R	Reverse Breakdown Voltage Long Term Stability	t = 1000 hrs T = 25°C ±0.1°C I_R = 100 µA	120			ppm
V_{HYST}	Thermal Hysteresis (*Note 8*)	ΔT = −40°C to +125°C	0.08			%

LM4040-8.2 Electrical Characteristics
V_R Tolerance Grades 'A' and 'B'; Temperature Grade 'I'

Boldface limits apply for $T_A = T_J = T_{MIN}$ to T_{MAX}; all other limits $T_A = T_J = 25°C$. The grades A and B designate initial Reverse Breakdown Voltage tolerances of ±0.1% and ±0.2%, respectively.

Symbol	Parameter	Conditions	Typical (*Note 4*)	LM4040AIM3 LM4040AIZ Limits (*Note 5*)	LM4040BIM3 LM4040BIZ Limits (*Note 5*)	Units
V_R	Reverse Breakdown Voltage	I_R = 150 µA	8.192			V
	Reverse Breakdown Voltage Tolerance (*Note 6*)	I_R = 150 µA		±8.2	±16	mV (max)
				±61	**±70**	mV (max)
I_{RMIN}	Minimum Operating Current		67			µA
				91	91	µA (max)
				95	**95**	µA (max)
$\Delta V_R/\Delta T$	Average Reverse Breakdown Voltage Temperature Coefficient (*Note 6*)	I_R = 10 mA	±40			ppm/°C
		I_R = 1 mA	±20	**±100**	**±100**	ppm/°C (max)
		I_R = 150 µA	±20			ppm/°C
$\Delta V_R/\Delta I_R$	Reverse Breakdown Voltage Change with Operating Current Change (*Note 7*)	$I_{RMIN} \le I_R \le$ 1 mA	0.6			mV
				1.3	1.3	mV (max)
				2.5	**2.5**	mV (max)
		1 mA ≤ $I_R \le$ 15 mA	7.0			mV
				10.0	10.0	mV (max)
				18.0	**18.0**	mV (max)
Z_R	Reverse Dynamic Impedance	I_R = 1 mA, f = 120 Hz, $I_{AC} = 0.1\ I_R$	0.6			Ω
				1.5	1.5	Ω (max)
e_N	Wideband Noise	I_R = 150 µA 10 Hz ≤ f ≤ 10 kHz	130			μV_{rms}
ΔV_R	Reverse Breakdown Voltage Long Term Stability	t = 1000 hrs T = 25°C ±0.1°C I_R = 150 µA	120			ppm
V_{HYST}	Thermal Hysteresis (*Note 8*)	ΔT = −40°C to +125°C	0.08			%

LM4040-8.2 Electrical Characteristics
V_R Tolerance Grades 'C' and 'D'; Temperature Grade 'I'

Boldface limits apply for $T_A = T_J = T_{MIN}$ to T_{MAX}; all other limits $T_A = T_J = 25°C$. The grades C and D designate initial Reverse Breakdown Voltage tolerances of ±0.5% and ±1.0%, respectively.

Symbol	Parameter	Conditions	Typical (*Note 4*)	LM4040CIM3 LM4040CIZ Limits (*Note 5*)	LM4040DIM3 LM4040DIZ Limits (*Note 5*)	Units
V_R	Reverse Breakdown Voltage	I_R = 150 µA	8.192			V
	Reverse Breakdown Voltage Tolerance (*Note 6*)	I_R = 150 µA		±41	±82	mV (max)
				±94	**±162**	mV (max)
I_{RMIN}	Minimum Operating Current		67			µA
				91	96	µA (max)
				95	**100**	µA (max)
$\Delta V_R/\Delta T$	Average Reverse Breakdown Voltage Temperature Coefficient (*Note 6*)	I_R = 10 mA	±40			ppm/°C
		I_R = 1 mA	±20	**±100**	**±150**	ppm/°C (max)
		I_R = 150 µA	±20			ppm/°C
$\Delta V_R/\Delta I_R$	Reverse Breakdown Voltage Change with Operating Current Change (*Note 7*)	$I_{RMIN} \le I_R \le$ 1 mA	0.6			mV
				1.3	1.7	mV (max)
				2.5	**3.0**	mV (max)
		1 mA ≤ $I_R \le$ 15 mA	7.0			mV
				10.0	15.0	mV (max)
				18.0	**24.0**	mV (max)
Z_R	Reverse Dynamic Impedance	I_R = 1 mA, f = 120 Hz, I_{AC} = 0.1 I_R	0.6			Ω
				1.5	1.9	Ω (max)
e_N	Wideband Noise	I_R = 150 µA 10 Hz ≤ f ≤ 10 kHz	130			μV_{rms}
ΔV_R	Reverse Breakdown Voltage Long Term Stability	t = 1000 hrs T = 25°C ±0.1°C I_R = 150 µA	120			ppm
V_{HYST}	Thermal Hysteresis (*Note 8*)	ΔT = −40°C to +125°C	0.08			%

LM4040-10.0 Electrical Characteristics
V_R Tolerance Grades 'A' and 'B'; Temperature Grade 'I'

Boldface limits apply for $T_A = T_J = T_{MIN}$ to T_{MAX}; all other limits $T_A = T_J = 25°C$. The grades A and B designate initial Reverse Breakdown Voltage tolerances of ±0.1% and ±0.2%, respectively.

Symbol	Parameter	Conditions	Typical (*Note 4*)	LM4040AIM3 LM4040AIZ Limits (*Note 5*)	LM4040BIM3 LM4040BIZ Limits (*Note 5*)	Units
V_R	Reverse Breakdown Voltage	I_R = 150 µA	10.00			V
	Reverse Breakdown Voltage Tolerance (*Note 6*)	I_R = 150 µA		±10	±20	mV (max)
				±75	**±85**	mV (max)
I_{RMIN}	Minimum Operating Current		75			µA
				100	100	µA (max)
				103	**103**	µA (max)
$\Delta V_R/\Delta T$	Average Reverse Breakdown Voltage Temperature Coefficient (*Note 6*)	I_R = 10 mA	±40			ppm/°C
		I_R = 1 mA	±20	**±100**	**±100**	ppm/°C (max)
		I_R = 150 µA	±20			ppm/°C
$\Delta V_R/\Delta I_R$	Reverse Breakdown Voltage Change with Operating Current Change (*Note 7*)	$I_{RMIN} \le I_R \le$ 1 mA	0.8			mV
				1.5	1.5	mV (max)
				3.5	**3.5**	mV (max)
		1 mA ≤ $I_R \le$ 15 mA	8.0			mV
				12.0	12.0	mV (max)
				23.0	**23.0**	mV (max)
Z_R	Reverse Dynamic Impedance	I_R = 1 mA, f = 120 Hz, I_{AC} = 0.1 I_R	0.7			Ω
				1.7	1.7	Ω (max)
e_N	Wideband Noise	I_R = 150 µA 10 Hz ≤ f ≤ 10 kHz	180			μV_{rms}
ΔV_R	Reverse Breakdown Voltage Long Term Stability	t = 1000 hrs T = 25°C ±0.1°C I_R = 150 µA	120			ppm
V_{HYST}	Thermal Hysteresis (*Note 8*)	ΔT = −40°C to +125°C	0.08			%

LM4040-10.0 Electrical Characteristics
V_R Tolerance Grades 'C' and 'D'; Temperature Grade 'I'

Boldface limits apply for $T_A = T_J = T_{MIN}$ to T_{MAX}; all other limits $T_A = T_J = 25°C$. The grades C and D designate initial Reverse Breakdown Voltage tolerances of ±0.5% and ±1.0%, respectively.

Symbol	Parameter	Conditions	Typical (*Note 4*)	LM4040CIM3 LM4040CIZ Limits (*Note 5*)	LM4040DIM3 LM4040DIZ Limits (*Note 5*)	Units
V_R	Reverse Breakdown Voltage	I_R = 150 µA	10.00			V
	Reverse Breakdown Voltage Tolerance (*Note 6*)	I_R = 150 µA		±50	±100	mV (max)
				±115	**±198**	mV (max)
I_{RMIN}	Minimum Operating Current		75			µA
				100	110	µA (max)
				103	**113**	µA (max)
$\Delta V_R/\Delta T$	Average Reverse Breakdown Voltage Temperature Coefficient (*Note 6*)	I_R = 10 mA	±40			ppm/°C
		I_R = 1 mA	±20	**±100**	**±150**	ppm/°C (max)
		I_R = 150 µA	±20			ppm/°C
$\Delta V_R/\Delta I_R$	Reverse Breakdown Voltage Change with Operating Current Change (*Note 7*)	$I_{RMIN} \le I_R \le$ 1 mA	0.8			mV
				1.5	2.0	mV (max)
				3.5	**4.0**	mV (max)
		1 mA ≤ $I_R \le$ 15 mA	8.0			mV
				12.0	18.0	mV (max)
				23.0	**29.0**	mV (max)
Z_R	Reverse Dynamic Impedance	I_R = 1 mA, f = 120 Hz, I_{AC} = 0.1 I_R	0.7			Ω
				1.7	2.3	Ω (max)
e_N	Wideband Noise	I_R = 150 µA 10 Hz ≤ f ≤ 10 kHz	180			μV_{rms}
ΔV_R	Reverse Breakdown Voltage Long Term Stability	t = 1000 hrs T = 25°C ±0.1°C I_R = 150 µA	120			ppm
V_{HYST}	Thermal Hysteresis (*Note 8*)	ΔT = −40°C to +125°C	0.08			%

Electrical Characteristics(Notes)

Note 1: Absolute Maximum Ratings indicate limits beyond which damage to the device may occur. Operating Ratings indicate conditions for which the device is functional, but do not guarantee specific performance limits. For guaranteed specifications and test conditions, see the Electrical Characteristics. The guaranteed specifications apply only for the test conditions listed. Some performance characteristics may degrade when the device is not operated under the listed test conditions.

Note 2: The maximum power dissipation must be derated at elevated temperatures and is dictated by T_{Jmax} (maximum junction temperature), θ_{JA} (junction to ambient thermal resistance), and T_A (ambient temperature). The maximum allowable power dissipation at any temperature is $PD_{max} = (T_{Jmax} - T_A)/\theta_{JA}$ or the number given in the Absolute Maximum Ratings, whichever is lower. For the LM4040, $T_{Jmax} = 125°C$, and the typical thermal resistance (θ_{JA}), when board mounted, is 326°C/W for the SOT-23 package, and 180°C/W with 0.4″ lead length and 170°C/W with 0.125″ lead length for the TO-92 package and 415°C/W for the SC70 Package.

Note 3: The human body model is a 100 pF capacitor discharged through a 1.5 kΩ resistor into each pin. The machine model is a 200 pF capacitor discharged directly into each pin.

Note 4: Typicals are at $T_J = 25°C$ and represent most likely parametric norm.

Note 5: Limits are 100% production tested at 25°C. Limits over temperature are guaranteed through correlation using Statistical Quality Control (SQC) methods. The limits are used to calculate National's AOQL.

Note 6: The boldface (over-temperature) limit for Reverse Breakdown Voltage Tolerance is defined as the room temperature Reverse Breakdown Voltage Tolerance $\pm[(\Delta V_R/\Delta T)(\max\Delta T)(V_R)]$. Where, $\Delta V_R/\Delta T$ is the V_R temperature coefficient, $\max\Delta T$ is the maximum difference in temperature from the reference point of 25°C to T_{MIN} or T_{MAX}, and V_R is the reverse breakdown voltage. The total over-temperature tolerance for the different grades in the industrial temperature range where $\max\Delta T = 65°C$ is shown below:

A-grade: ±0.75% = ±0.1% ±100 ppm/°C × 65°C
B-grade: ±0.85% = ±0.2% ±100 ppm/°C × 65°C
C-grade: ±1.15% = ±0.5% ±100 ppm/°C × 65°C
D-grade: ±1.98% = ±1.0% ±150 ppm/°C × 65°C
E-grade: ±2.98% = ±2.0% ±150 ppm/°C × 65°C

The total over-temperature tolerance for the different grades in the exteded temperature range where max ΔT = 100 °C is shown below:

C-grade: ±1.5% = ±0.5% ±100 ppm/°C × 100°C
D-grade: ±2.5% = ±1.0% ±150 ppm/°C × 100°C
E-grade: ±3.5% = ±2.0% ±150 ppm/°C × 100°C

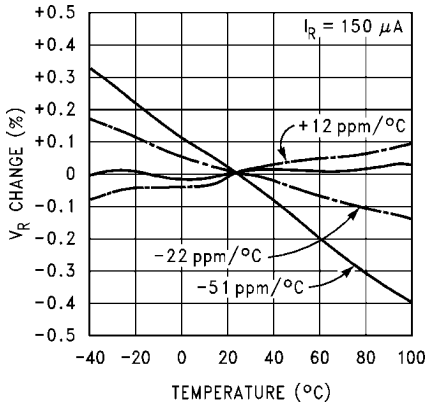
Therefore, as an example, the A-grade LM4040-2.5 has an over-temperature Reverse Breakdown Voltage tolerance of ±2.5V × 0.75% = ±19 mV.

Note 7: Load regulation is measured on pulse basis from no load to the specified load current. Output changes due to die temperature change must be taken into account separately.

Note 8: Thermal hysteresis is defined as the difference in voltage measured at +25°C after cycling to temperature -40°C and the 25°C measurement after cycling to temperature +125°C.

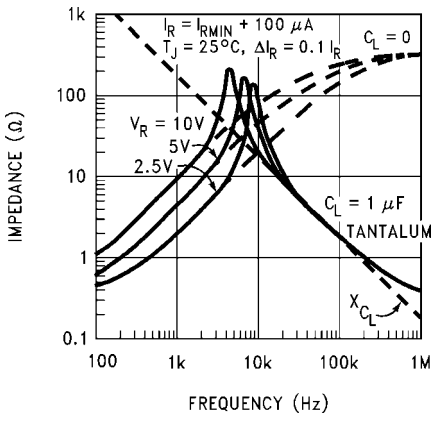
Typical Performance Characteristics

Temperature Drift for Different Average Temperature Coefficient



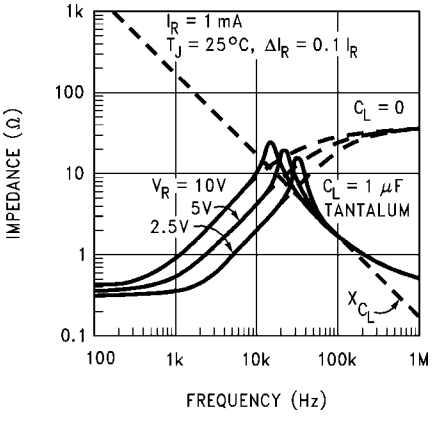
1132304

Output Impedance vs Frequency



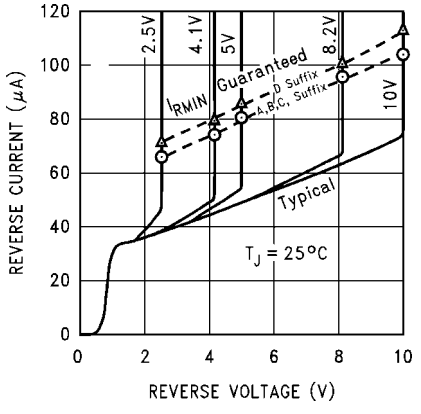
1132310

Output Impedance vs Frequency



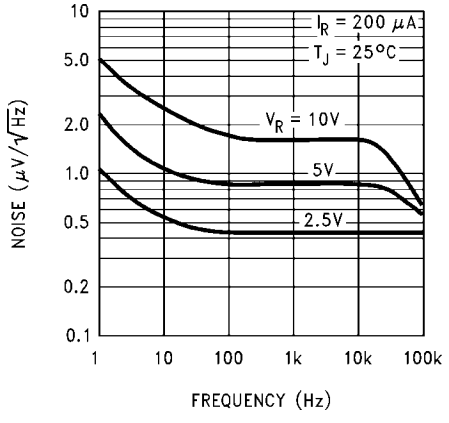
1132311

Reverse Characteristics and Minimum Operating Current



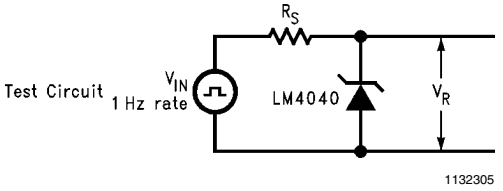
1132312

Noise Voltage vs Frequency



1132313

Start-Up Characteristics



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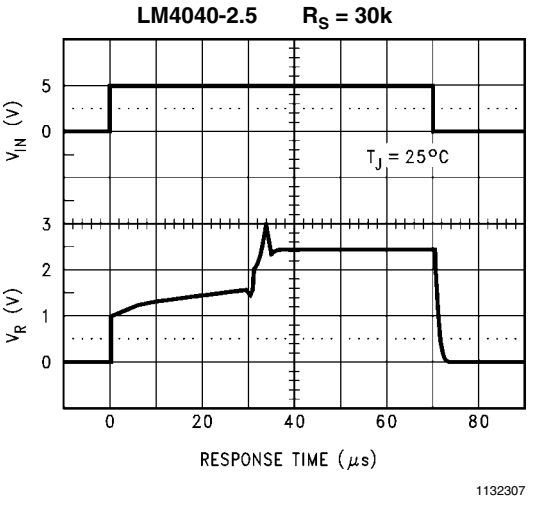

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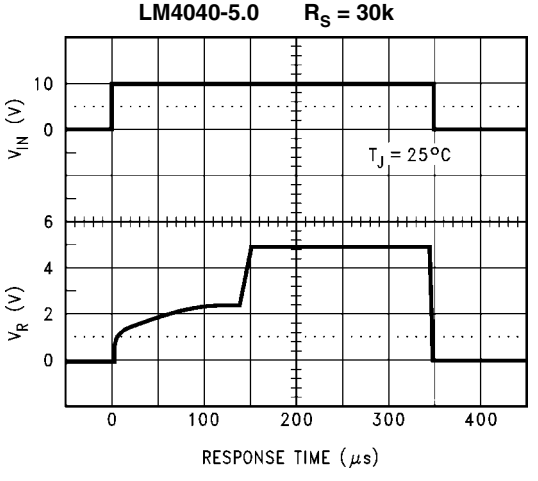

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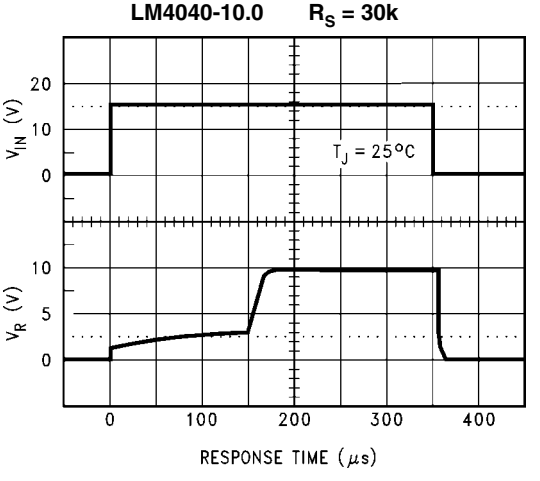
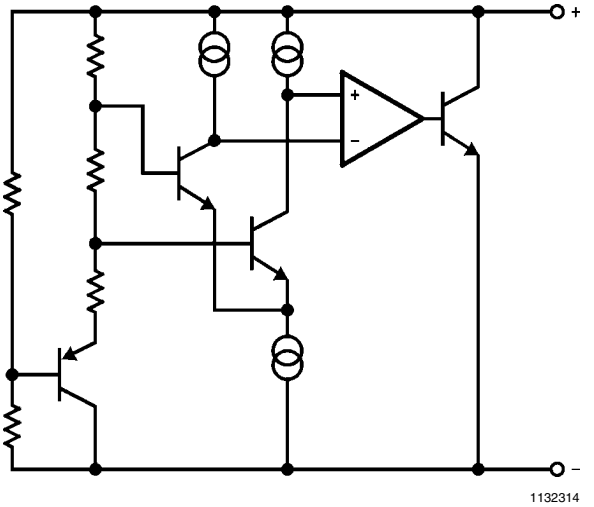


1132309

Functional Block Diagram



1132314

Applications Information

The LM4040 is a precision micro-power curvature-corrected bandgap shunt voltage reference. For space critical applications, the LM4040 is available in the sub-miniature SOT-23 and SC70 surface-mount package. The LM4040 has been designed for stable operation without the need of an external capacitor connected between the "+" pin and the "–" pin. If, however, a bypass capacitor is used, the LM4040 remains stable. Reducing design effort is the availability of several fixed reverse breakdown voltages: 2.048V, 2.500V, 3.000V, 4.096V, 5.000V, 6.000, 8.192V, and 10.000V. The minimum operating current increases from 60 µA for the LM4040-2.048 and LM4040-2.5 to 100 µA for the LM4040-10.0. All versions have a maximum operating current of 15 mA.

LM4040s in the SOT-23 packages have a parasitic Schottky diode between pin 2 (–) and pin 3 (Die attach interface contact). Therefore, pin 3 of the SOT-23 package must be left floating or connected to pin 2.

LM4040s in the SC70 have a parasitic Schottky diode between pin 1 (–) and pin 2 (Die attach interface contact). Therefore, pin 2 must be left floating or connected to pin1.

The 4.096V version allows single +5V 12-bit ADCs or DACs to operate with an LSB equal to 1 mV. For 12-bit ADCs or DACs that operate on supplies of 10V or greater, the 8.192V version gives 2 mV per LSB.

The typical thermal hysteresis specification is defined as the change in +25°C voltage measured after thermal cycling. The device is thermal cycled to temperature -40°C and then measured at 25°C. Next the device is thermal cycled to temperature +125°C and again measured at 25°C. The resulting V_{OUT} delta shift between the 25°C measurements is thermal hysteresis. Thermal hysteresis is common in precision references and is induced by thermal-mechanical package stress. Changes in environmental storage temperature, operating temperature and board mounting temperature are all factors that can contribute to thermal hysteresis.

In a conventional shunt regulator application (*Figure 1*) , an external series resistor (R_S) is connected between the supply voltage and the LM4040. R_S determines the current that flows through the load (I_L) and the LM4040 (I_Q). Since load current and supply voltage may vary, R_S should be small enough to supply at least the minimum acceptable I_Q to the LM4040 even when the supply voltage is at its minimum and the load current is at its maximum value. When the supply voltage is at its maximum and I_L is at its minimum, R_S should be large enough so that the current flowing through the LM4040 is less than 15 mA.

R_S is determined by the supply voltage, (V_S), the load and operating current, (I_L and I_Q), and the LM4040's reverse breakdown voltage, V_R.

$$R_S = \frac{V_S - V_R}{I_L + I_Q}$$

Typical Applications

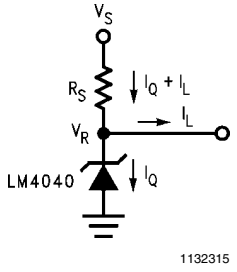
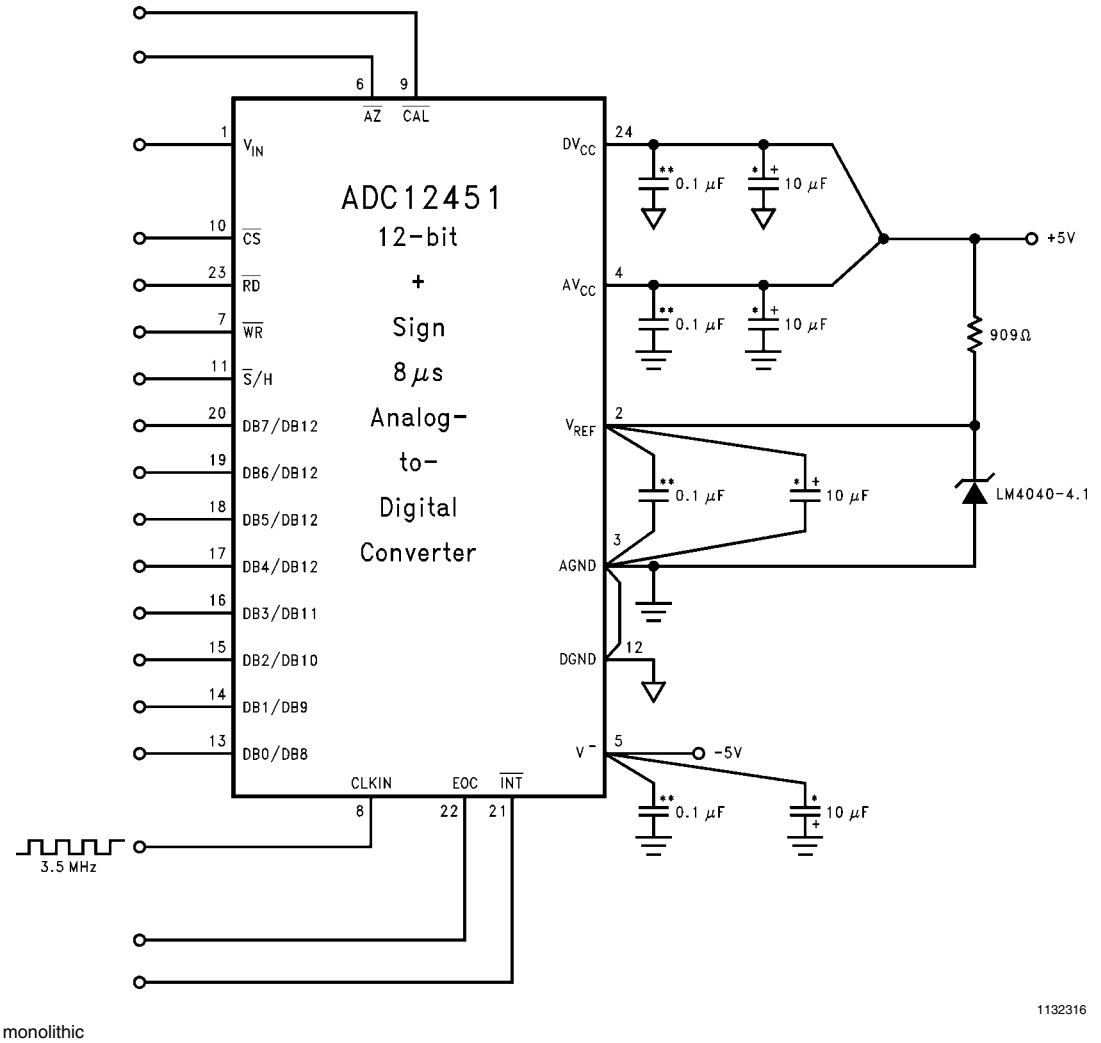


FIGURE 1. Shunt Regulator



**Ceramic monolithic
*Tantalum

FIGURE 2. LM4040-4.1's Nominal 4.096 breakdown voltage gives ADC12451 1 mV/LSB

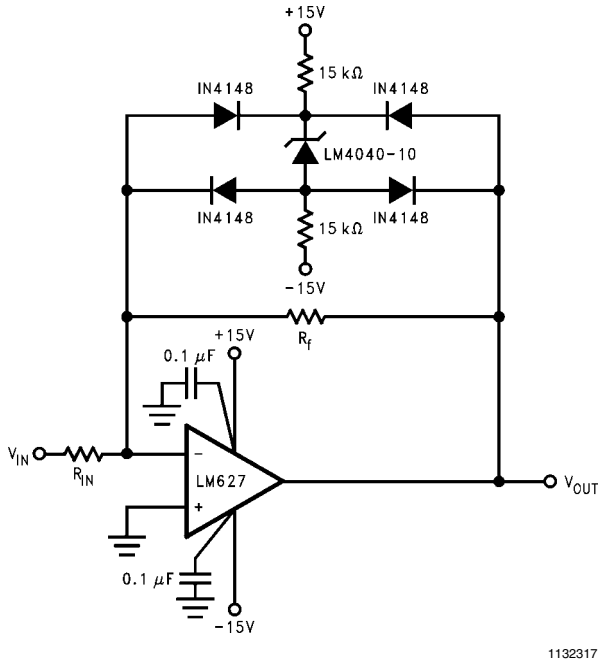


FIGURE 3. Bounded amplifier reduces saturation-induced delays and can prevent succeeding stage damage. Nominal clamping voltage is ±11.5V (LM4040's reverse breakdown voltage +2 diode V_F).

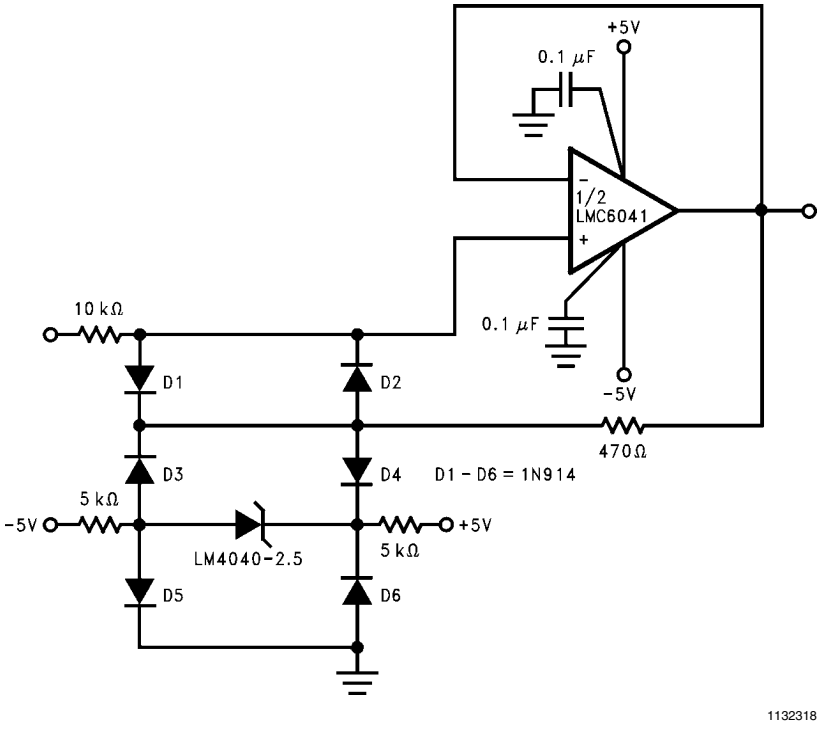


FIGURE 4. Protecting Op Amp input. The bounding voltage is ±4V with the LM4040-2.5 (LM4040's reverse breakdown voltage + 3 diode V_F).

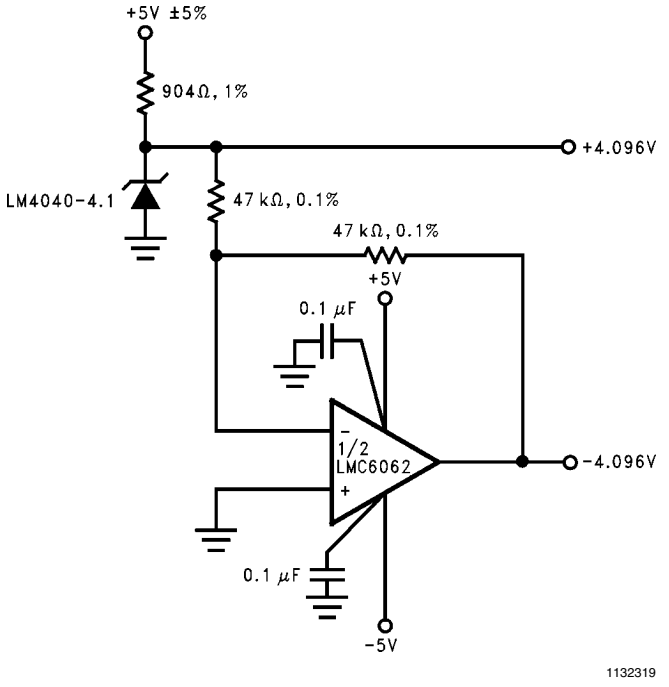
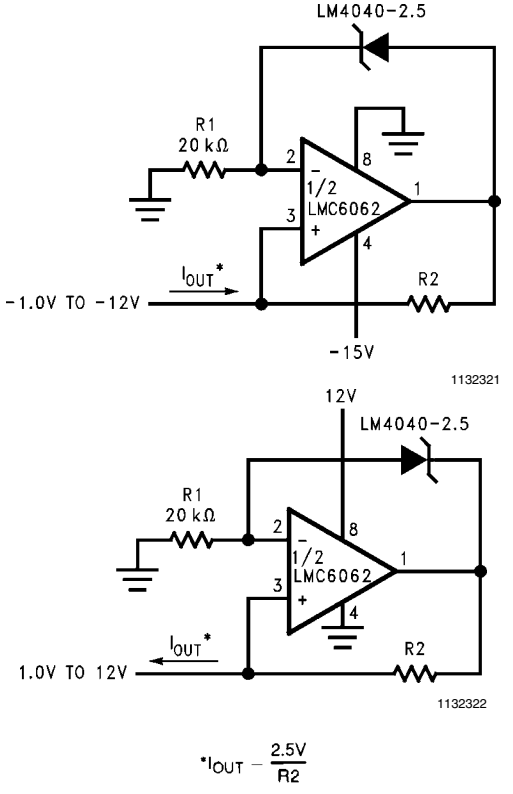


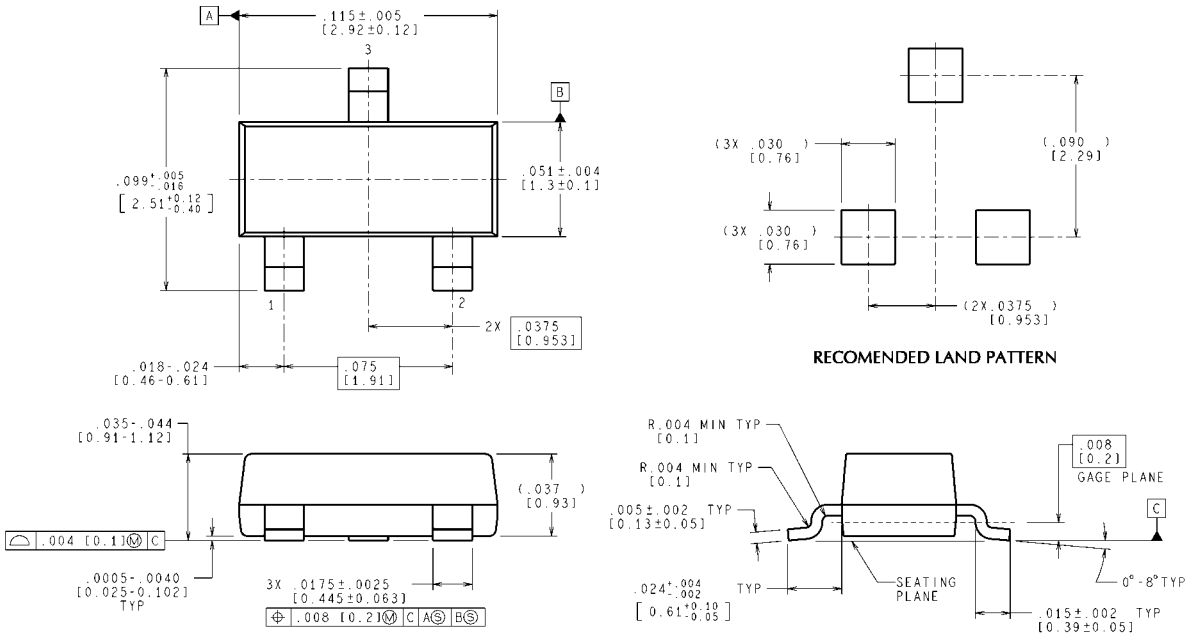
FIGURE 5. Precision ±4.096V Reference



$$*I_{OUT} = \frac{2.5V}{R2}$$

FIGURE 6. Precision 1 µA to 1 mA Current Sources

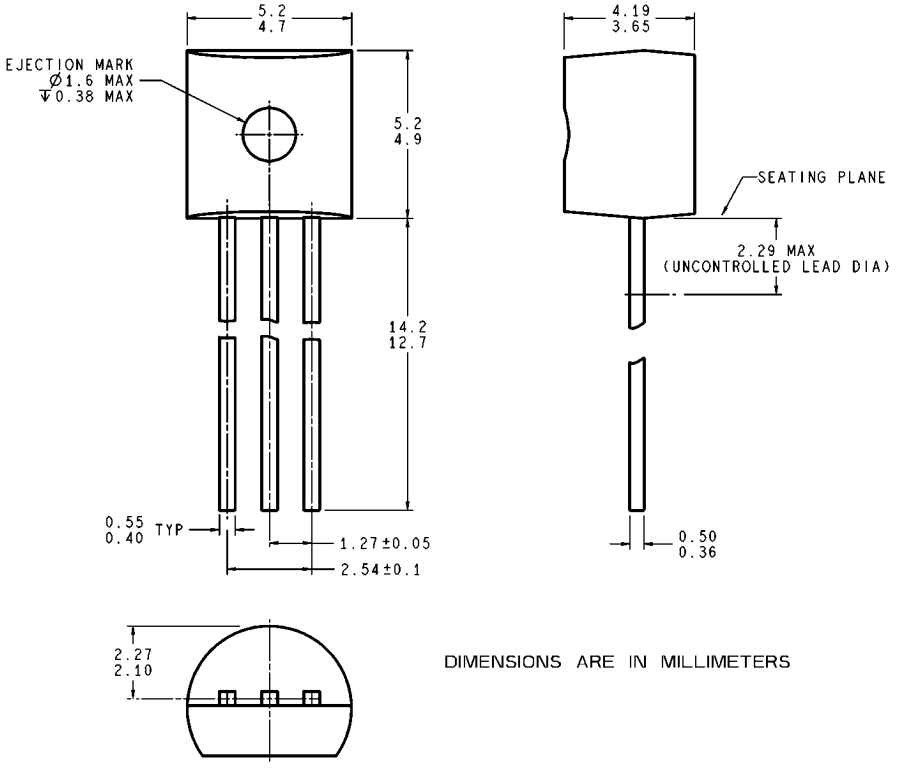
Physical Dimensions inches (millimeters) unless otherwise noted



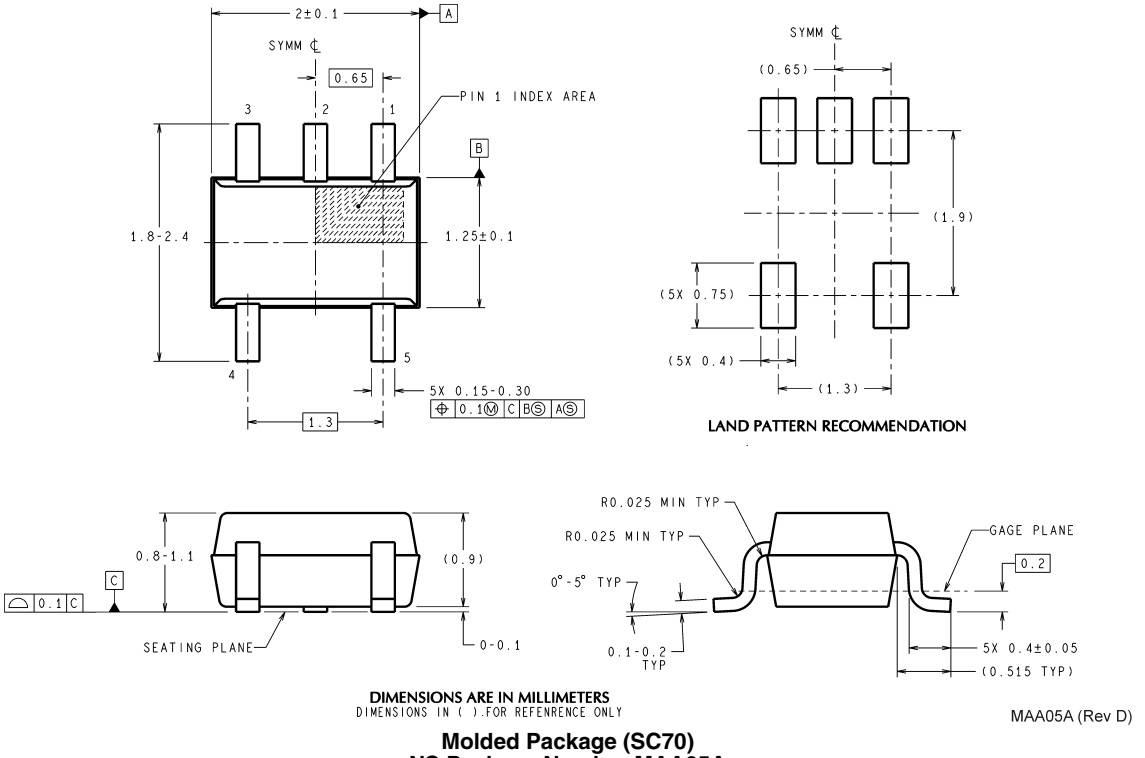
CONTROLLING DIMENSION IS INCH
VALUES IN [ ] ARE MILLIMETERS

MF03A (Rev B)

Plastic Surface Mount Package (M3)
NS Package Number MF03A
(JEDEC Registration TO-236AB)



Plastic Package (Z)
NS Package Number Z03A



Molded Package (SC70)
NS Package Number MAA05A

Notes

PACKAGING INFORMATION

Orderable Device	Status (1)	Package Type	Package Drawing	Pins	Package Qty	Eco Plan (2)	Lead/ Ball Finish	MSL Peak Temp (3)	Samples (Requires Login)
LM4040A10IDBZR	ACTIVE	SOT-23	DBZ	3	3000	Green (RoHS & no Sb/Br)	CU NIPDAU	Level-1-260C-UNLIM	Add to cart
LM4040A10IDBZRG4	ACTIVE	SOT-23	DBZ	3	3000	Green (RoHS & no Sb/Br)	CU NIPDAU	Level-1-260C-UNLIM	Add to cart
LM4040A10IDBZT	ACTIVE	SOT-23	DBZ	3	250	Green (RoHS & no Sb/Br)	CU NIPDAU	Level-1-260C-UNLIM	Add to cart
LM4040A10IDBZTG4	ACTIVE	SOT-23	DBZ	3	250	Green (RoHS & no Sb/Br)	CU NIPDAU	Level-1-260C-UNLIM	Add to cart
LM4040A10IDCKR	ACTIVE	SC70	DCK	5	3000	Green (RoHS & no Sb/Br)	CU NIPDAU	Level-1-260C-UNLIM	Add to cart
LM4040A10IDCKRG4	ACTIVE	SC70	DCK	5	3000	Green (RoHS & no Sb/Br)	CU NIPDAU	Level-1-260C-UNLIM	Add to cart
LM4040A10ILP	PREVIEW	TO-92	LP	3	1000	TBD	Call TI	Call TI	Add to cart
LM4040A10ILPR	PREVIEW	TO-92	LP	3	2000	TBD	Call TI	Call TI	Add to cart
LM4040A20IDBZR	ACTIVE	SOT-23	DBZ	3	3000	Green (RoHS & no Sb/Br)	CU NIPDAU	Level-1-260C-UNLIM	Add to cart
LM4040A20IDBZRG4	ACTIVE	SOT-23	DBZ	3	3000	Green (RoHS & no Sb/Br)	CU NIPDAU	Level-1-260C-UNLIM	Add to cart
LM4040A20IDBZT	ACTIVE	SOT-23	DBZ	3	250	Green (RoHS & no Sb/Br)	CU NIPDAU	Level-1-260C-UNLIM	Add to cart
LM4040A20IDBZTG4	ACTIVE	SOT-23	DBZ	3	250	Green (RoHS & no Sb/Br)	CU NIPDAU	Level-1-260C-UNLIM	Add to cart
LM4040A20IDCKR	ACTIVE	SC70	DCK	5	3000	Green (RoHS & no Sb/Br)	CU NIPDAU	Level-1-260C-UNLIM	Add to cart
LM4040A20IDCKRE4	ACTIVE	SC70	DCK	5	3000	Green (RoHS & no Sb/Br)	CU NIPDAU	Level-1-260C-UNLIM	Add to cart
LM4040A20IDCKRG4	ACTIVE	SC70	DCK	5	3000	Green (RoHS & no Sb/Br)	CU NIPDAU	Level-1-260C-UNLIM	Add to cart
LM4040A25IDBZR	ACTIVE	SOT-23	DBZ	3	3000	Green (RoHS & no Sb/Br)	CU NIPDAU	Level-1-260C-UNLIM	Add to cart
LM4040A25IDBZRG4	ACTIVE	SOT-23	DBZ	3	3000	Green (RoHS & no Sb/Br)	CU NIPDAU	Level-1-260C-UNLIM	Add to cart
LM4040A25IDBZT	ACTIVE	SOT-23	DBZ	3	250	Green (RoHS & no Sb/Br)	CU NIPDAU	Level-1-260C-UNLIM	Add to cart

Orderable Device	Status (1)	Package Type	Package Drawing	Pins	Package Qty	Eco Plan (2)	Lead/ Ball Finish	MSL Peak Temp (3)	Samples (Requires Login)
LM4040A25IDBZTG4	ACTIVE	SOT-23	DBZ	3	250	Green (RoHS & no Sb/Br)	CU NIPDAU	Level-1-260C-UNLIM	Add to cart
LM4040A25IDCKR	ACTIVE	SC70	DCK	5	3000	Green (RoHS & no Sb/Br)	CU NIPDAU	Level-1-260C-UNLIM	Add to cart
LM4040A25IDCKRE4	ACTIVE	SC70	DCK	5	3000	Green (RoHS & no Sb/Br)	CU NIPDAU	Level-1-260C-UNLIM	Add to cart
LM4040A25IDCKRG4	ACTIVE	SC70	DCK	5	3000	Green (RoHS & no Sb/Br)	CU NIPDAU	Level-1-260C-UNLIM	Add to cart
LM4040A25ILP	PREVIEW	TO-92	LP	3	1000	TBD	Call TI	Call TI	Add to cart
LM4040A25ILPR	PREVIEW	TO-92	LP	3	2000	TBD	Call TI	Call TI	Add to cart
LM4040A30IDBZR	ACTIVE	SOT-23	DBZ	3	3000	Green (RoHS & no Sb/Br)	CU NIPDAU	Level-1-260C-UNLIM	Add to cart
LM4040A30IDBZRG4	ACTIVE	SOT-23	DBZ	3	3000	Green (RoHS & no Sb/Br)	CU NIPDAU	Level-1-260C-UNLIM	Add to cart
LM4040A30IDBZT	ACTIVE	SOT-23	DBZ	3	250	Green (RoHS & no Sb/Br)	CU NIPDAU	Level-1-260C-UNLIM	Add to cart
LM4040A30IDBZTG4	ACTIVE	SOT-23	DBZ	3	250	Green (RoHS & no Sb/Br)	CU NIPDAU	Level-1-260C-UNLIM	Add to cart
LM4040A30IDCKR	ACTIVE	SC70	DCK	5	3000	Green (RoHS & no Sb/Br)	CU NIPDAU	Level-1-260C-UNLIM	Add to cart
LM4040A30IDCKRE4	ACTIVE	SC70	DCK	5	3000	Green (RoHS & no Sb/Br)	CU NIPDAU	Level-1-260C-UNLIM	Add to cart
LM4040A30IDCKRG4	ACTIVE	SC70	DCK	5	3000	Green (RoHS & no Sb/Br)	CU NIPDAU	Level-1-260C-UNLIM	Add to cart
LM4040A30IDCKT	PREVIEW	SC70	DCK	5	250	TBD	Call TI	Call TI	Add to cart
LM4040A30ILP	PREVIEW	TO-92	LP	3	1000	TBD	Call TI	Call TI	Add to cart
LM4040A30ILPM	PREVIEW	TO-92	LP	3	2000	TBD	Call TI	Call TI	Add to cart
LM4040A30ILPR	PREVIEW	TO-92	LP	3	2000	TBD	Call TI	Call TI	Add to cart
LM4040A41IDBZR	ACTIVE	SOT-23	DBZ	3	3000	Green (RoHS & no Sb/Br)	CU NIPDAU	Level-1-260C-UNLIM	Add to cart
LM4040A41IDBZRG4	ACTIVE	SOT-23	DBZ	3	3000	Green (RoHS & no Sb/Br)	CU NIPDAU	Level-1-260C-UNLIM	Add to cart
LM4040A41IDBZT	ACTIVE	SOT-23	DBZ	3	250	Green (RoHS & no Sb/Br)	CU NIPDAU	Level-1-260C-UNLIM	Add to cart

Orderable Device	Status (1)	Package Type	Package Drawing	Pins	Package Qty	Eco Plan (2)	Lead/ Ball Finish	MSL Peak Temp (3)	Samples (Requires Login)
LM4040A41IDBZTG4	ACTIVE	SOT-23	DBZ	3	250	Green (RoHS & no Sb/Br)	CU NIPDAU	Level-1-260C-UNLIM	Add to cart
LM4040A41IDCKR	ACTIVE	SC70	DCK	5	3000	Green (RoHS & no Sb/Br)	CU NIPDAU	Level-1-260C-UNLIM	Add to cart
LM4040A41IDCKRE4	ACTIVE	SC70	DCK	5	3000	Green (RoHS & no Sb/Br)	CU NIPDAU	Level-1-260C-UNLIM	Add to cart
LM4040A41IDCKRG4	ACTIVE	SC70	DCK	5	3000	Green (RoHS & no Sb/Br)	CU NIPDAU	Level-1-260C-UNLIM	Add to cart
LM4040A41ILP	PREVIEW	TO-92	LP	3	1000	TBD	Call TI	Call TI	Add to cart
LM4040A41ILPR	PREVIEW	TO-92	LP	3	2000	TBD	Call TI	Call TI	Add to cart
LM4040A50IDBZR	ACTIVE	SOT-23	DBZ	3	3000	Green (RoHS & no Sb/Br)	CU NIPDAU	Level-1-260C-UNLIM	Add to cart
LM4040A50IDBZRG4	ACTIVE	SOT-23	DBZ	3	3000	Green (RoHS & no Sb/Br)	CU NIPDAU	Level-1-260C-UNLIM	Add to cart
LM4040A50IDBZT	ACTIVE	SOT-23	DBZ	3	250	Green (RoHS & no Sb/Br)	CU NIPDAU	Level-1-260C-UNLIM	Add to cart
LM4040A50IDBZTG4	ACTIVE	SOT-23	DBZ	3	250	Green (RoHS & no Sb/Br)	CU NIPDAU	Level-1-260C-UNLIM	Add to cart
LM4040A50IDCKR	ACTIVE	SC70	DCK	5	3000	Green (RoHS & no Sb/Br)	CU NIPDAU	Level-1-260C-UNLIM	Add to cart
LM4040A50IDCKRE4	ACTIVE	SC70	DCK	5	3000	Green (RoHS & no Sb/Br)	CU NIPDAU	Level-1-260C-UNLIM	Add to cart
LM4040A50IDCKRG4	ACTIVE	SC70	DCK	5	3000	Green (RoHS & no Sb/Br)	CU NIPDAU	Level-1-260C-UNLIM	Add to cart
LM4040A50ILP	PREVIEW	TO-92	LP	3	1000	TBD	Call TI	Call TI	Add to cart
LM4040A82IDBZR	ACTIVE	SOT-23	DBZ	3	3000	Green (RoHS & no Sb/Br)	CU NIPDAU	Level-1-260C-UNLIM	Add to cart
LM4040A82IDBZRG4	ACTIVE	SOT-23	DBZ	3	3000	Green (RoHS & no Sb/Br)	CU NIPDAU	Level-1-260C-UNLIM	Add to cart
LM4040A82IDBZT	ACTIVE	SOT-23	DBZ	3	250	Green (RoHS & no Sb/Br)	CU NIPDAU	Level-1-260C-UNLIM	Add to cart
LM4040A82IDBZTG4	ACTIVE	SOT-23	DBZ	3	250	Green (RoHS & no Sb/Br)	CU NIPDAU	Level-1-260C-UNLIM	Add to cart
LM4040A82IDCKR	ACTIVE	SC70	DCK	5	3000	Green (RoHS & no Sb/Br)	CU NIPDAU	Level-1-260C-UNLIM	Add to cart

Orderable Device	Status (1)	Package Type	Package Drawing	Pins	Package Qty	Eco Plan (2)	Lead/ Ball Finish	MSL Peak Temp (3)	Samples (Requires Login)
LM4040A82IDCKRG4	ACTIVE	SC70	DCK	5	3000	Green (RoHS & no Sb/Br)	CU NIPDAU	Level-1-260C-UNLIM	Add to cart
LM4040B10IDBZR	ACTIVE	SOT-23	DBZ	3	3000	Green (RoHS & no Sb/Br)	CU NIPDAU	Level-1-260C-UNLIM	Add to cart
LM4040B10IDBZRG4	ACTIVE	SOT-23	DBZ	3	3000	Green (RoHS & no Sb/Br)	CU NIPDAU	Level-1-260C-UNLIM	Add to cart
LM4040B10IDBZT	ACTIVE	SOT-23	DBZ	3	250	Green (RoHS & no Sb/Br)	CU NIPDAU	Level-1-260C-UNLIM	Add to cart
LM4040B10IDBZTG4	ACTIVE	SOT-23	DBZ	3	250	Green (RoHS & no Sb/Br)	CU NIPDAU	Level-1-260C-UNLIM	Add to cart
LM4040B10IDCKR	ACTIVE	SC70	DCK	5	3000	Green (RoHS & no Sb/Br)	CU NIPDAU	Level-1-260C-UNLIM	Add to cart
LM4040B10IDCKRG4	ACTIVE	SC70	DCK	5	3000	Green (RoHS & no Sb/Br)	CU NIPDAU	Level-1-260C-UNLIM	Add to cart
LM4040B10ILP	PREVIEW	TO-92	LP	3	1000	TBD	Call TI	Call TI	Add to cart
LM4040B10ILPR	PREVIEW	TO-92	LP	3	2000	TBD	Call TI	Call TI	Add to cart
LM4040B20IDBZR	ACTIVE	SOT-23	DBZ	3	3000	Green (RoHS & no Sb/Br)	CU NIPDAU	Level-1-260C-UNLIM	Add to cart
LM4040B20IDBZRG4	ACTIVE	SOT-23	DBZ	3	3000	Green (RoHS & no Sb/Br)	CU NIPDAU	Level-1-260C-UNLIM	Add to cart
LM4040B20IDBZT	ACTIVE	SOT-23	DBZ	3	250	Green (RoHS & no Sb/Br)	CU NIPDAU	Level-1-260C-UNLIM	Add to cart
LM4040B20IDBZTG4	ACTIVE	SOT-23	DBZ	3	250	Green (RoHS & no Sb/Br)	CU NIPDAU	Level-1-260C-UNLIM	Add to cart
LM4040B20IDCKR	ACTIVE	SC70	DCK	5	3000	Green (RoHS & no Sb/Br)	CU NIPDAU	Level-1-260C-UNLIM	Add to cart
LM4040B20IDCKRE4	ACTIVE	SC70	DCK	5	3000	Green (RoHS & no Sb/Br)	CU NIPDAU	Level-1-260C-UNLIM	Add to cart
LM4040B20IDCKRG4	ACTIVE	SC70	DCK	5	3000	Green (RoHS & no Sb/Br)	CU NIPDAU	Level-1-260C-UNLIM	Add to cart
LM4040B25IDBZR	ACTIVE	SOT-23	DBZ	3	3000	Green (RoHS & no Sb/Br)	CU NIPDAU	Level-1-260C-UNLIM	Add to cart
LM4040B25IDBZRG4	ACTIVE	SOT-23	DBZ	3	3000	Green (RoHS & no Sb/Br)	CU NIPDAU	Level-1-260C-UNLIM	Add to cart
LM4040B25IDBZT	ACTIVE	SOT-23	DBZ	3	250	Green (RoHS & no Sb/Br)	CU NIPDAU	Level-1-260C-UNLIM	Add to cart

Orderable Device	Status (1)	Package Type	Package Drawing	Pins	Package Qty	Eco Plan (2)	Lead/ Ball Finish	MSL Peak Temp (3)	Samples (Requires Login)
LM4040B25IDBZTG4	ACTIVE	SOT-23	DBZ	3	250	Green (RoHS & no Sb/Br)	CU NIPDAU	Level-1-260C-UNLIM	Add to cart
LM4040B25IDCKR	ACTIVE	SC70	DCK	5	3000	Green (RoHS & no Sb/Br)	CU NIPDAU	Level-1-260C-UNLIM	Add to cart
LM4040B25IDCKRE4	ACTIVE	SC70	DCK	5	3000	Green (RoHS & no Sb/Br)	CU NIPDAU	Level-1-260C-UNLIM	Add to cart
LM4040B25IDCKRG4	ACTIVE	SC70	DCK	5	3000	Green (RoHS & no Sb/Br)	CU NIPDAU	Level-1-260C-UNLIM	Add to cart
LM4040B25ILP	PREVIEW	TO-92	LP	3	1000	TBD	Call TI	Call TI	Add to cart
LM4040B25ILPR	PREVIEW	TO-92	LP	3	2000	TBD	Call TI	Call TI	Add to cart
LM4040B30IDBZR	ACTIVE	SOT-23	DBZ	3	3000	Green (RoHS & no Sb/Br)	CU NIPDAU	Level-1-260C-UNLIM	Add to cart
LM4040B30IDBZRG4	ACTIVE	SOT-23	DBZ	3	3000	Green (RoHS & no Sb/Br)	CU NIPDAU	Level-1-260C-UNLIM	Add to cart
LM4040B30IDBZT	ACTIVE	SOT-23	DBZ	3	250	Green (RoHS & no Sb/Br)	CU NIPDAU	Level-1-260C-UNLIM	Add to cart
LM4040B30IDBZTG4	ACTIVE	SOT-23	DBZ	3	250	Green (RoHS & no Sb/Br)	CU NIPDAU	Level-1-260C-UNLIM	Add to cart
LM4040B30IDCKR	ACTIVE	SC70	DCK	5	3000	Green (RoHS & no Sb/Br)	CU NIPDAU	Level-1-260C-UNLIM	Add to cart
LM4040B30IDCKRE4	ACTIVE	SC70	DCK	5	3000	Green (RoHS & no Sb/Br)	CU NIPDAU	Level-1-260C-UNLIM	Add to cart
LM4040B30IDCKRG4	ACTIVE	SC70	DCK	5	3000	Green (RoHS & no Sb/Br)	CU NIPDAU	Level-1-260C-UNLIM	Add to cart
LM4040B30IDCKT	PREVIEW	SC70	DCK	5	250	TBD	Call TI	Call TI	Add to cart
LM4040B30ILP	PREVIEW	TO-92	LP	3	1000	TBD	Call TI	Call TI	Add to cart
LM4040B30ILPM	PREVIEW	TO-92	LP	3	2000	TBD	Call TI	Call TI	Add to cart
LM4040B30ILPR	PREVIEW	TO-92	LP	3	2000	TBD	Call TI	Call TI	Add to cart
LM4040B41IDBZR	ACTIVE	SOT-23	DBZ	3	3000	Green (RoHS & no Sb/Br)	CU NIPDAU	Level-1-260C-UNLIM	Add to cart
LM4040B41IDBZRG4	ACTIVE	SOT-23	DBZ	3	3000	Green (RoHS & no Sb/Br)	CU NIPDAU	Level-1-260C-UNLIM	Add to cart
LM4040B41IDBZT	ACTIVE	SOT-23	DBZ	3	250	Green (RoHS & no Sb/Br)	CU NIPDAU	Level-1-260C-UNLIM	Add to cart

Orderable Device	Status (1)	Package Type	Package Drawing	Pins	Package Qty	Eco Plan (2)	Lead/ Ball Finish	MSL Peak Temp (3)	Samples (Requires Login)
LM4040B41IDBZTG4	ACTIVE	SOT-23	DBZ	3	250	Green (RoHS & no Sb/Br)	CU NIPDAU	Level-1-260C-UNLIM	Add to cart
LM4040B41IDCKR	ACTIVE	SC70	DCK	5	3000	Green (RoHS & no Sb/Br)	CU NIPDAU	Level-1-260C-UNLIM	Add to cart
LM4040B41IDCKRE4	ACTIVE	SC70	DCK	5	3000	Green (RoHS & no Sb/Br)	CU NIPDAU	Level-1-260C-UNLIM	Add to cart
LM4040B41IDCKRG4	ACTIVE	SC70	DCK	5	3000	Green (RoHS & no Sb/Br)	CU NIPDAU	Level-1-260C-UNLIM	Add to cart
LM4040B41ILP	PREVIEW	TO-92	LP	3	1000	TBD	Call TI	Call TI	Add to cart
LM4040B41ILPR	PREVIEW	TO-92	LP	3	2000	TBD	Call TI	Call TI	Add to cart
LM4040B50IDBZR	ACTIVE	SOT-23	DBZ	3	3000	Green (RoHS & no Sb/Br)	CU NIPDAU	Level-1-260C-UNLIM	Add to cart
LM4040B50IDBZRG4	ACTIVE	SOT-23	DBZ	3	3000	Green (RoHS & no Sb/Br)	CU NIPDAU	Level-1-260C-UNLIM	Add to cart
LM4040B50IDBZT	ACTIVE	SOT-23	DBZ	3	250	Green (RoHS & no Sb/Br)	CU NIPDAU	Level-1-260C-UNLIM	Add to cart
LM4040B50IDBZTG4	ACTIVE	SOT-23	DBZ	3	250	Green (RoHS & no Sb/Br)	CU NIPDAU	Level-1-260C-UNLIM	Add to cart
LM4040B50IDCKR	ACTIVE	SC70	DCK	5	3000	Green (RoHS & no Sb/Br)	CU NIPDAU	Level-1-260C-UNLIM	Add to cart
LM4040B50IDCKRE4	ACTIVE	SC70	DCK	5	3000	Green (RoHS & no Sb/Br)	CU NIPDAU	Level-1-260C-UNLIM	Add to cart
LM4040B50IDCKRG4	ACTIVE	SC70	DCK	5	3000	Green (RoHS & no Sb/Br)	CU NIPDAU	Level-1-260C-UNLIM	Add to cart
LM4040B50ILP	PREVIEW	TO-92	LP	3	1000	TBD	Call TI	Call TI	Add to cart
LM4040B50ILPR	PREVIEW	TO-92	LP	3	2000	TBD	Call TI	Call TI	Add to cart
LM4040B82IDBZR	ACTIVE	SOT-23	DBZ	3	3000	Green (RoHS & no Sb/Br)	CU NIPDAU	Level-1-260C-UNLIM	Add to cart
LM4040B82IDBZRG4	ACTIVE	SOT-23	DBZ	3	3000	Green (RoHS & no Sb/Br)	CU NIPDAU	Level-1-260C-UNLIM	Add to cart
LM4040B82IDBZT	ACTIVE	SOT-23	DBZ	3	250	Green (RoHS & no Sb/Br)	CU NIPDAU	Level-1-260C-UNLIM	Add to cart
LM4040B82IDBZTG4	ACTIVE	SOT-23	DBZ	3	250	Green (RoHS & no Sb/Br)	CU NIPDAU	Level-1-260C-UNLIM	Add to cart

Orderable Device	Status (1)	Package Type	Package Drawing	Pins	Package Qty	Eco Plan (2)	Lead/ Ball Finish	MSL Peak Temp (3)	Samples (Requires Login)
LM4040B82IDCKR	ACTIVE	SC70	DCK	5	3000	Green (RoHS & no Sb/Br)	CU NIPDAU	Level-1-260C-UNLIM	Add to cart
LM4040B82IDCKRG4	ACTIVE	SC70	DCK	5	3000	Green (RoHS & no Sb/Br)	CU NIPDAU	Level-1-260C-UNLIM	Add to cart
LM4040C10IDBZR	ACTIVE	SOT-23	DBZ	3	3000	Green (RoHS & no Sb/Br)	CU NIPDAU	Level-1-260C-UNLIM	Add to cart
LM4040C10IDBZRG4	ACTIVE	SOT-23	DBZ	3	3000	Green (RoHS & no Sb/Br)	CU NIPDAU	Level-1-260C-UNLIM	Add to cart
LM4040C10IDBZT	ACTIVE	SOT-23	DBZ	3	250	Green (RoHS & no Sb/Br)	CU NIPDAU	Level-1-260C-UNLIM	Add to cart
LM4040C10IDBZTG4	ACTIVE	SOT-23	DBZ	3	250	Green (RoHS & no Sb/Br)	CU NIPDAU	Level-1-260C-UNLIM	Add to cart
LM4040C10IDCKR	ACTIVE	SC70	DCK	5	3000	Green (RoHS & no Sb/Br)	CU NIPDAU	Level-1-260C-UNLIM	Add to cart
LM4040C10IDCKRG4	ACTIVE	SC70	DCK	5	3000	Green (RoHS & no Sb/Br)	CU NIPDAU	Level-1-260C-UNLIM	Add to cart
LM4040C10ILP	ACTIVE	TO-92	LP	3	1000	Pb-Free (RoHS)	CU SN	N / A for Pkg Type	Add to cart
LM4040C10ILPE3	ACTIVE	TO-92	LP	3	1000	Pb-Free (RoHS)	CU SN	N / A for Pkg Type	Add to cart
LM4040C10ILPR	ACTIVE	TO-92	LP	3	2000	Pb-Free (RoHS)	CU SN	N / A for Pkg Type	Add to cart
LM4040C10ILPRE3	ACTIVE	TO-92	LP	3	2000	Pb-Free (RoHS)	CU SN	N / A for Pkg Type	Add to cart
LM4040C20IDBZR	ACTIVE	SOT-23	DBZ	3	3000	Green (RoHS & no Sb/Br)	CU NIPDAU	Level-1-260C-UNLIM	Add to cart
LM4040C20IDBZRG4	ACTIVE	SOT-23	DBZ	3	3000	Green (RoHS & no Sb/Br)	CU NIPDAU	Level-1-260C-UNLIM	Add to cart
LM4040C20IDBZT	ACTIVE	SOT-23	DBZ	3	250	Green (RoHS & no Sb/Br)	CU NIPDAU	Level-1-260C-UNLIM	Add to cart
LM4040C20IDBZTG4	ACTIVE	SOT-23	DBZ	3	250	Green (RoHS & no Sb/Br)	CU NIPDAU	Level-1-260C-UNLIM	Add to cart
LM4040C20IDCKR	ACTIVE	SC70	DCK	5	3000	Green (RoHS & no Sb/Br)	CU NIPDAU	Level-1-260C-UNLIM	Add to cart
LM4040C20IDCKRE4	ACTIVE	SC70	DCK	5	3000	Green (RoHS & no Sb/Br)	CU NIPDAU	Level-1-260C-UNLIM	Add to cart
LM4040C20IDCKRG4	ACTIVE	SC70	DCK	5	3000	Green (RoHS & no Sb/Br)	CU NIPDAU	Level-1-260C-UNLIM	Add to cart
LM4040C20ILP	ACTIVE	TO-92	LP	3	1000	Pb-Free (RoHS)	CU SN	N / A for Pkg Type	Add to cart

Orderable Device	Status (1)	Package Type	Package Drawing	Pins	Package Qty	Eco Plan (2)	Lead/ Ball Finish	MSL Peak Temp (3)	Samples (Requires Login)
LM4040C20ILPE3	ACTIVE	TO-92	LP	3	1000	Pb-Free (RoHS)	CU SN	N / A for Pkg Type	Add to cart
LM4040C20ILPR	ACTIVE	TO-92	LP	3	2000	Pb-Free (RoHS)	CU SN	N / A for Pkg Type	Add to cart
LM4040C20ILPRE3	ACTIVE	TO-92	LP	3	2000	Pb-Free (RoHS)	CU SN	N / A for Pkg Type	Add to cart
LM4040C20QDBZR	ACTIVE	SOT-23	DBZ	3	3000	Green (RoHS & no Sb/Br)	CU NIPDAU	Level-1-260C-UNLIM	Add to cart
LM4040C20QDBZRG4	ACTIVE	SOT-23	DBZ	3	3000	Green (RoHS & no Sb/Br)	CU NIPDAU	Level-1-260C-UNLIM	Add to cart
LM4040C20QDBZT	ACTIVE	SOT-23	DBZ	3	250	Green (RoHS & no Sb/Br)	CU NIPDAU	Level-1-260C-UNLIM	Add to cart
LM4040C20QDBZTG4	ACTIVE	SOT-23	DBZ	3	250	Green (RoHS & no Sb/Br)	CU NIPDAU	Level-1-260C-UNLIM	Add to cart
LM4040C25IDBZR	ACTIVE	SOT-23	DBZ	3	3000	Green (RoHS & no Sb/Br)	CU NIPDAU	Level-1-260C-UNLIM	Add to cart
LM4040C25IDBZRG4	ACTIVE	SOT-23	DBZ	3	3000	Green (RoHS & no Sb/Br)	CU NIPDAU	Level-1-260C-UNLIM	Add to cart
LM4040C25IDBZT	ACTIVE	SOT-23	DBZ	3	250	Green (RoHS & no Sb/Br)	CU NIPDAU	Level-1-260C-UNLIM	Add to cart
LM4040C25IDBZTG4	ACTIVE	SOT-23	DBZ	3	250	Green (RoHS & no Sb/Br)	CU NIPDAU	Level-1-260C-UNLIM	Add to cart
LM4040C25IDCKR	ACTIVE	SC70	DCK	5	3000	Green (RoHS & no Sb/Br)	CU NIPDAU	Level-1-260C-UNLIM	Add to cart
LM4040C25IDCKRE4	ACTIVE	SC70	DCK	5	3000	Green (RoHS & no Sb/Br)	CU NIPDAU	Level-1-260C-UNLIM	Add to cart
LM4040C25IDCKRG4	ACTIVE	SC70	DCK	5	3000	Green (RoHS & no Sb/Br)	CU NIPDAU	Level-1-260C-UNLIM	Add to cart
LM4040C25IDCKT	ACTIVE	SC70	DCK	5	250	Green (RoHS & no Sb/Br)	CU NIPDAU	Level-1-260C-UNLIM	Add to cart
LM4040C25IDCKTE4	ACTIVE	SC70	DCK	5	250	Green (RoHS & no Sb/Br)	CU NIPDAU	Level-1-260C-UNLIM	Add to cart
LM4040C25IDCKTG4	ACTIVE	SC70	DCK	5	250	Green (RoHS & no Sb/Br)	CU NIPDAU	Level-1-260C-UNLIM	Add to cart
LM4040C25ILP	ACTIVE	TO-92	LP	3	1000	Pb-Free (RoHS)	CU SN	N / A for Pkg Type	Add to cart
LM4040C25ILPE3	ACTIVE	TO-92	LP	3	1000	Pb-Free (RoHS)	CU SN	N / A for Pkg Type	Add to cart
LM4040C25ILPR	ACTIVE	TO-92	LP	3	2000	Pb-Free (RoHS)	CU SN	N / A for Pkg Type	Add to cart
LM4040C25ILPRE3	ACTIVE	TO-92	LP	3	2000	Pb-Free (RoHS)	CU SN	N / A for Pkg Type	Add to cart

Orderable Device	Status (1)	Package Type	Package Drawing	Pins	Package Qty	Eco Plan (2)	Lead/ Ball Finish	MSL Peak Temp (3)	Samples (Requires Login)
LM4040C25QDBZR	ACTIVE	SOT-23	DBZ	3	3000	Green (RoHS & no Sb/Br)	CU NIPDAU	Level-1-260C-UNLIM	Add to cart
LM4040C25QDBZRG4	ACTIVE	SOT-23	DBZ	3	3000	Green (RoHS & no Sb/Br)	CU NIPDAU	Level-1-260C-UNLIM	Add to cart
LM4040C25QDBZT	ACTIVE	SOT-23	DBZ	3	250	Green (RoHS & no Sb/Br)	CU NIPDAU	Level-1-260C-UNLIM	Add to cart
LM4040C25QDBZTG4	ACTIVE	SOT-23	DBZ	3	250	Green (RoHS & no Sb/Br)	CU NIPDAU	Level-1-260C-UNLIM	Add to cart
LM4040C30IDBZR	ACTIVE	SOT-23	DBZ	3	3000	Green (RoHS & no Sb/Br)	CU NIPDAU	Level-1-260C-UNLIM	Add to cart
LM4040C30IDBZRG4	ACTIVE	SOT-23	DBZ	3	3000	Green (RoHS & no Sb/Br)	CU NIPDAU	Level-1-260C-UNLIM	Add to cart
LM4040C30IDBZT	ACTIVE	SOT-23	DBZ	3	250	Green (RoHS & no Sb/Br)	CU NIPDAU	Level-1-260C-UNLIM	Add to cart
LM4040C30IDBZTG4	ACTIVE	SOT-23	DBZ	3	250	Green (RoHS & no Sb/Br)	CU NIPDAU	Level-1-260C-UNLIM	Add to cart
LM4040C30IDCKR	ACTIVE	SC70	DCK	5	3000	Green (RoHS & no Sb/Br)	CU NIPDAU	Level-1-260C-UNLIM	Add to cart
LM4040C30IDCKRE4	ACTIVE	SC70	DCK	5	3000	Green (RoHS & no Sb/Br)	CU NIPDAU	Level-1-260C-UNLIM	Add to cart
LM4040C30IDCKRG4	ACTIVE	SC70	DCK	5	3000	Green (RoHS & no Sb/Br)	CU NIPDAU	Level-1-260C-UNLIM	Add to cart
LM4040C30IDCKT	PREVIEW	SC70	DCK	5	250	TBD	Call TI	Call TI	Add to cart
LM4040C30ILP	ACTIVE	TO-92	LP	3	1000	Pb-Free (RoHS)	CU SN	N / A for Pkg Type	Add to cart
LM4040C30ILPE3	ACTIVE	TO-92	LP	3	1000	Pb-Free (RoHS)	CU SN	N / A for Pkg Type	Add to cart
LM4040C30ILPM	PREVIEW	TO-92	LP	3	2000	TBD	Call TI	Call TI	Add to cart
LM4040C30ILPR	ACTIVE	TO-92	LP	3	2000	Pb-Free (RoHS)	CU SN	N / A for Pkg Type	Add to cart
LM4040C30ILPRE3	ACTIVE	TO-92	LP	3	2000	Pb-Free (RoHS)	CU SN	N / A for Pkg Type	Add to cart
LM4040C30QDBZR	ACTIVE	SOT-23	DBZ	3	3000	Green (RoHS & no Sb/Br)	CU NIPDAU	Level-1-260C-UNLIM	Add to cart
LM4040C30QDBZRG4	ACTIVE	SOT-23	DBZ	3	3000	Green (RoHS & no Sb/Br)	CU NIPDAU	Level-1-260C-UNLIM	Add to cart
LM4040C30QDBZT	ACTIVE	SOT-23	DBZ	3	250	Green (RoHS & no Sb/Br)	CU NIPDAU	Level-1-260C-UNLIM	Add to cart

Orderable Device	Status (1)	Package Type	Package Drawing	Pins	Package Qty	Eco Plan (2)	Lead/ Ball Finish	MSL Peak Temp (3)	Samples (Requires Login)
LM4040C30QDBZTG4	ACTIVE	SOT-23	DBZ	3	250	Green (RoHS & no Sb/Br)	CU NIPDAU	Level-1-260C-UNLIM	Add to cart
LM4040C41IDBZR	ACTIVE	SOT-23	DBZ	3	3000	Green (RoHS & no Sb/Br)	CU NIPDAU	Level-1-260C-UNLIM	Add to cart
LM4040C41IDBZRG4	ACTIVE	SOT-23	DBZ	3	3000	Green (RoHS & no Sb/Br)	CU NIPDAU	Level-1-260C-UNLIM	Add to cart
LM4040C41IDBZT	ACTIVE	SOT-23	DBZ	3	250	Green (RoHS & no Sb/Br)	CU NIPDAU	Level-1-260C-UNLIM	Add to cart
LM4040C41IDBZTG4	ACTIVE	SOT-23	DBZ	3	250	Green (RoHS & no Sb/Br)	CU NIPDAU	Level-1-260C-UNLIM	Add to cart
LM4040C41IDCKR	ACTIVE	SC70	DCK	5	3000	Green (RoHS & no Sb/Br)	CU NIPDAU	Level-1-260C-UNLIM	Add to cart
LM4040C41IDCKRE4	ACTIVE	SC70	DCK	5	3000	Green (RoHS & no Sb/Br)	CU NIPDAU	Level-1-260C-UNLIM	Add to cart
LM4040C41IDCKRG4	ACTIVE	SC70	DCK	5	3000	Green (RoHS & no Sb/Br)	CU NIPDAU	Level-1-260C-UNLIM	Add to cart
LM4040C41ILP	ACTIVE	TO-92	LP	3	1000	Pb-Free (RoHS)	CU SN	N / A for Pkg Type	Add to cart
LM4040C41ILPE3	ACTIVE	TO-92	LP	3	1000	Pb-Free (RoHS)	CU SN	N / A for Pkg Type	Add to cart
LM4040C41ILPR	ACTIVE	TO-92	LP	3	2000	Pb-Free (RoHS)	CU SN	N / A for Pkg Type	Add to cart
LM4040C41ILPRE3	ACTIVE	TO-92	LP	3	2000	Pb-Free (RoHS)	CU SN	N / A for Pkg Type	Add to cart
LM4040C50IDBZR	ACTIVE	SOT-23	DBZ	3	3000	Green (RoHS & no Sb/Br)	CU NIPDAU	Level-1-260C-UNLIM	Add to cart
LM4040C50IDBZRG4	ACTIVE	SOT-23	DBZ	3	3000	Green (RoHS & no Sb/Br)	CU NIPDAU	Level-1-260C-UNLIM	Add to cart
LM4040C50IDBZT	ACTIVE	SOT-23	DBZ	3	250	Green (RoHS & no Sb/Br)	CU NIPDAU	Level-1-260C-UNLIM	Add to cart
LM4040C50IDBZTG4	ACTIVE	SOT-23	DBZ	3	250	Green (RoHS & no Sb/Br)	CU NIPDAU	Level-1-260C-UNLIM	Add to cart
LM4040C50IDCKR	ACTIVE	SC70	DCK	5	3000	Green (RoHS & no Sb/Br)	CU NIPDAU	Level-1-260C-UNLIM	Add to cart
LM4040C50IDCKRE4	ACTIVE	SC70	DCK	5	3000	Green (RoHS & no Sb/Br)	CU NIPDAU	Level-1-260C-UNLIM	Add to cart
LM4040C50IDCKRG4	ACTIVE	SC70	DCK	5	3000	Green (RoHS & no Sb/Br)	CU NIPDAU	Level-1-260C-UNLIM	Add to cart
LM4040C50ILP	ACTIVE	TO-92	LP	3	1000	Pb-Free (RoHS)	CU SN	N / A for Pkg Type	Add to cart

Orderable Device	Status (1)	Package Type	Package Drawing	Pins	Package Qty	Eco Plan (2)	Lead/ Ball Finish	MSL Peak Temp (3)	Samples (Requires Login)
LM4040C50ILPE3	ACTIVE	TO-92	LP	3	1000	Pb-Free (RoHS)	CU SN	N / A for Pkg Type	Add to cart
LM4040C50ILPR	ACTIVE	TO-92	LP	3	2000	Pb-Free (RoHS)	CU SN	N / A for Pkg Type	Add to cart
LM4040C50ILPRE3	ACTIVE	TO-92	LP	3	2000	Pb-Free (RoHS)	CU SN	N / A for Pkg Type	Add to cart
LM4040C50QDBZR	ACTIVE	SOT-23	DBZ	3	3000	Green (RoHS & no Sb/Br)	CU NIPDAU	Level-1-260C-UNLIM	Add to cart
LM4040C50QDBZRG4	ACTIVE	SOT-23	DBZ	3	3000	Green (RoHS & no Sb/Br)	CU NIPDAU	Level-1-260C-UNLIM	Add to cart
LM4040C50QDBZT	ACTIVE	SOT-23	DBZ	3	250	Green (RoHS & no Sb/Br)	CU NIPDAU	Level-1-260C-UNLIM	Add to cart
LM4040C50QDBZTG4	ACTIVE	SOT-23	DBZ	3	250	Green (RoHS & no Sb/Br)	CU NIPDAU	Level-1-260C-UNLIM	Add to cart
LM4040C82IDBZR	ACTIVE	SOT-23	DBZ	3	3000	Green (RoHS & no Sb/Br)	CU NIPDAU	Level-1-260C-UNLIM	Add to cart
LM4040C82IDBZRG4	ACTIVE	SOT-23	DBZ	3	3000	Green (RoHS & no Sb/Br)	CU NIPDAU	Level-1-260C-UNLIM	Add to cart
LM4040C82IDBZT	ACTIVE	SOT-23	DBZ	3	250	Green (RoHS & no Sb/Br)	CU NIPDAU	Level-1-260C-UNLIM	Add to cart
LM4040C82IDBZTG4	ACTIVE	SOT-23	DBZ	3	250	Green (RoHS & no Sb/Br)	CU NIPDAU	Level-1-260C-UNLIM	Add to cart
LM4040C82IDCKR	ACTIVE	SC70	DCK	5	3000	Green (RoHS & no Sb/Br)	CU NIPDAU	Level-1-260C-UNLIM	Add to cart
LM4040C82IDCKRG4	ACTIVE	SC70	DCK	5	3000	Green (RoHS & no Sb/Br)	CU NIPDAU	Level-1-260C-UNLIM	Add to cart
LM4040C82ILP	ACTIVE	TO-92	LP	3	1000	Pb-Free (RoHS)	CU SN	N / A for Pkg Type	Add to cart
LM4040C82ILPE3	ACTIVE	TO-92	LP	3	1000	Pb-Free (RoHS)	CU SN	N / A for Pkg Type	Add to cart
LM4040C82ILPR	ACTIVE	TO-92	LP	3	2000	Pb-Free (RoHS)	CU SN	N / A for Pkg Type	Add to cart
LM4040C82ILPRE3	ACTIVE	TO-92	LP	3	2000	Pb-Free (RoHS)	CU SN	N / A for Pkg Type	Add to cart
LM4040D20IDBZR	ACTIVE	SOT-23	DBZ	3	3000	Green (RoHS & no Sb/Br)	CU NIPDAU	Level-1-260C-UNLIM	Add to cart
LM4040D20IDBZRG4	ACTIVE	SOT-23	DBZ	3	3000	Green (RoHS & no Sb/Br)	CU NIPDAU	Level-1-260C-UNLIM	Add to cart
LM4040D20IDBZT	ACTIVE	SOT-23	DBZ	3	250	Green (RoHS & no Sb/Br)	CU NIPDAU	Level-1-260C-UNLIM	Add to cart
LM4040D20IDBZTG4	ACTIVE	SOT-23	DBZ	3	250	Green (RoHS & no Sb/Br)	CU NIPDAU	Level-1-260C-UNLIM	Add to cart

Orderable Device	Status (1)	Package Type	Package Drawing	Pins	Package Qty	Eco Plan (2)	Lead/ Ball Finish	MSL Peak Temp (3)	Samples (Requires Login)
LM4040D20IDCKR	ACTIVE	SC70	DCK	5	3000	Green (RoHS & no Sb/Br)	CU NIPDAU	Level-1-260C-UNLIM	Add to cart
LM4040D20IDCKRE4	ACTIVE	SC70	DCK	5	3000	Green (RoHS & no Sb/Br)	CU NIPDAU	Level-1-260C-UNLIM	Add to cart
LM4040D20IDCKRG4	ACTIVE	SC70	DCK	5	3000	Green (RoHS & no Sb/Br)	CU NIPDAU	Level-1-260C-UNLIM	Add to cart
LM4040D20ILP	ACTIVE	TO-92	LP	3	1000	Pb-Free (RoHS)	CU SN	N / A for Pkg Type	Add to cart
LM4040D20ILPE3	ACTIVE	TO-92	LP	3	1000	Pb-Free (RoHS)	CU SN	N / A for Pkg Type	Add to cart
LM4040D20ILPR	ACTIVE	TO-92	LP	3	2000	Pb-Free (RoHS)	CU SN	N / A for Pkg Type	Add to cart
LM4040D20ILPRE3	ACTIVE	TO-92	LP	3	2000	Pb-Free (RoHS)	CU SN	N / A for Pkg Type	Add to cart
LM4040D20QDBZR	ACTIVE	SOT-23	DBZ	3	3000	Green (RoHS & no Sb/Br)	CU NIPDAU	Level-1-260C-UNLIM	Add to cart
LM4040D20QDBZRG4	ACTIVE	SOT-23	DBZ	3	3000	Green (RoHS & no Sb/Br)	CU NIPDAU	Level-1-260C-UNLIM	Add to cart
LM4040D20QDBZT	ACTIVE	SOT-23	DBZ	3	250	Green (RoHS & no Sb/Br)	CU NIPDAU	Level-1-260C-UNLIM	Add to cart
LM4040D20QDBZTG4	ACTIVE	SOT-23	DBZ	3	250	Green (RoHS & no Sb/Br)	CU NIPDAU	Level-1-260C-UNLIM	Add to cart
LM4040D25IDBZR	ACTIVE	SOT-23	DBZ	3	3000	Green (RoHS & no Sb/Br)	CU NIPDAU	Level-1-260C-UNLIM	Add to cart
LM4040D25IDBZRG4	ACTIVE	SOT-23	DBZ	3	3000	Green (RoHS & no Sb/Br)	CU NIPDAU	Level-1-260C-UNLIM	Add to cart
LM4040D25IDBZT	ACTIVE	SOT-23	DBZ	3	250	Green (RoHS & no Sb/Br)	CU NIPDAU	Level-1-260C-UNLIM	Add to cart
LM4040D25IDBZTG4	ACTIVE	SOT-23	DBZ	3	250	Green (RoHS & no Sb/Br)	CU NIPDAU	Level-1-260C-UNLIM	Add to cart
LM4040D25IDCKR	ACTIVE	SC70	DCK	5	3000	Green (RoHS & no Sb/Br)	CU NIPDAU	Level-1-260C-UNLIM	Add to cart
LM4040D25IDCKRE4	ACTIVE	SC70	DCK	5	3000	Green (RoHS & no Sb/Br)	CU NIPDAU	Level-1-260C-UNLIM	Add to cart
LM4040D25IDCKRG4	ACTIVE	SC70	DCK	5	3000	Green (RoHS & no Sb/Br)	CU NIPDAU	Level-1-260C-UNLIM	Add to cart
LM4040D25IDCKT	ACTIVE	SC70	DCK	5	250	Green (RoHS & no Sb/Br)	CU NIPDAU	Level-1-260C-UNLIM	Add to cart

Orderable Device	Status (1)	Package Type	Package Drawing	Pins	Package Qty	Eco Plan (2)	Lead/ Ball Finish	MSL Peak Temp (3)	Samples (Requires Login)
LM4040D25IDCKTE4	ACTIVE	SC70	DCK	5	250	Green (RoHS & no Sb/Br)	CU NIPDAU	Level-1-260C-UNLIM	Add to cart
LM4040D25IDCKTG4	ACTIVE	SC70	DCK	5	250	Green (RoHS & no Sb/Br)	CU NIPDAU	Level-1-260C-UNLIM	Add to cart
LM4040D25ILP	ACTIVE	TO-92	LP	3	1000	Pb-Free (RoHS)	CU SN	N / A for Pkg Type	Add to cart
LM4040D25ILPE3	ACTIVE	TO-92	LP	3	1000	Pb-Free (RoHS)	CU SN	N / A for Pkg Type	Add to cart
LM4040D25ILPR	ACTIVE	TO-92	LP	3	2000	Pb-Free (RoHS)	CU SN	N / A for Pkg Type	Add to cart
LM4040D25ILPRE3	ACTIVE	TO-92	LP	3	2000	Pb-Free (RoHS)	CU SN	N / A for Pkg Type	Add to cart
LM4040D25QDBZR	ACTIVE	SOT-23	DBZ	3	3000	Green (RoHS & no Sb/Br)	CU NIPDAU	Level-1-260C-UNLIM	Add to cart
LM4040D25QDBZRG4	ACTIVE	SOT-23	DBZ	3	3000	Green (RoHS & no Sb/Br)	CU NIPDAU	Level-1-260C-UNLIM	Add to cart
LM4040D25QDBZT	ACTIVE	SOT-23	DBZ	3	250	Green (RoHS & no Sb/Br)	CU NIPDAU	Level-1-260C-UNLIM	Add to cart
LM4040D25QDBZTG4	ACTIVE	SOT-23	DBZ	3	250	Green (RoHS & no Sb/Br)	CU NIPDAU	Level-1-260C-UNLIM	Add to cart
LM4040D30IDBZR	ACTIVE	SOT-23	DBZ	3	3000	Green (RoHS & no Sb/Br)	CU NIPDAU	Level-1-260C-UNLIM	Add to cart
LM4040D30IDBZRG4	ACTIVE	SOT-23	DBZ	3	3000	Green (RoHS & no Sb/Br)	CU NIPDAU	Level-1-260C-UNLIM	Add to cart
LM4040D30IDBZT	ACTIVE	SOT-23	DBZ	3	250	Green (RoHS & no Sb/Br)	CU NIPDAU	Level-1-260C-UNLIM	Add to cart
LM4040D30IDBZTG4	ACTIVE	SOT-23	DBZ	3	250	Green (RoHS & no Sb/Br)	CU NIPDAU	Level-1-260C-UNLIM	Add to cart
LM4040D30IDCKR	ACTIVE	SC70	DCK	5	3000	Green (RoHS & no Sb/Br)	CU NIPDAU	Level-1-260C-UNLIM	Add to cart
LM4040D30IDCKRE4	ACTIVE	SC70	DCK	5	3000	Green (RoHS & no Sb/Br)	CU NIPDAU	Level-1-260C-UNLIM	Add to cart
LM4040D30IDCKRG4	ACTIVE	SC70	DCK	5	3000	Green (RoHS & no Sb/Br)	CU NIPDAU	Level-1-260C-UNLIM	Add to cart
LM4040D30IDCKT	PREVIEW	SC70	DCK	5	250	TBD	Call TI	Call TI	Add to cart
LM4040D30ILP	ACTIVE	TO-92	LP	3	1000	Pb-Free (RoHS)	CU SN	N / A for Pkg Type	Add to cart
LM4040D30ILPE3	ACTIVE	TO-92	LP	3	1000	Pb-Free (RoHS)	CU SN	N / A for Pkg Type	Add to cart
LM4040D30ILPM	PREVIEW	TO-92	LP	3	2000	TBD	Call TI	Call TI	Add to cart
LM4040D30ILPR	ACTIVE	TO-92	LP	3	2000	Pb-Free (RoHS)	CU SN	N / A for Pkg Type	Add to cart

Orderable Device	Status (1)	Package Type	Package Drawing	Pins	Package Qty	Eco Plan (2)	Lead/ Ball Finish	MSL Peak Temp (3)	Samples (Requires Login)
LM4040D30ILPRE3	ACTIVE	TO-92	LP	3	2000	Pb-Free (RoHS)	CU SN	N / A for Pkg Type	Add to cart
LM4040D30QDBZR	ACTIVE	SOT-23	DBZ	3	3000	Green (RoHS & no Sb/Br)	CU NIPDAU	Level-1-260C-UNLIM	Add to cart
LM4040D30QDBZRG4	ACTIVE	SOT-23	DBZ	3	3000	Green (RoHS & no Sb/Br)	CU NIPDAU	Level-1-260C-UNLIM	Add to cart
LM4040D30QDBZT	ACTIVE	SOT-23	DBZ	3	250	Green (RoHS & no Sb/Br)	CU NIPDAU	Level-1-260C-UNLIM	Add to cart
LM4040D30QDBZTG4	ACTIVE	SOT-23	DBZ	3	250	Green (RoHS & no Sb/Br)	CU NIPDAU	Level-1-260C-UNLIM	Add to cart
LM4040D41IDBZR	ACTIVE	SOT-23	DBZ	3	3000	Green (RoHS & no Sb/Br)	CU NIPDAU	Level-1-260C-UNLIM	Add to cart
LM4040D41IDBZRG4	ACTIVE	SOT-23	DBZ	3	3000	Green (RoHS & no Sb/Br)	CU NIPDAU	Level-1-260C-UNLIM	Add to cart
LM4040D41IDBZT	ACTIVE	SOT-23	DBZ	3	250	Green (RoHS & no Sb/Br)	CU NIPDAU	Level-1-260C-UNLIM	Add to cart
LM4040D41IDBZTG4	ACTIVE	SOT-23	DBZ	3	250	Green (RoHS & no Sb/Br)	CU NIPDAU	Level-1-260C-UNLIM	Add to cart
LM4040D41IDCKR	ACTIVE	SC70	DCK	5	3000	Green (RoHS & no Sb/Br)	CU NIPDAU	Level-1-260C-UNLIM	Add to cart
LM4040D41IDCKRE4	ACTIVE	SC70	DCK	5	3000	Green (RoHS & no Sb/Br)	CU NIPDAU	Level-1-260C-UNLIM	Add to cart
LM4040D41IDCKRG4	ACTIVE	SC70	DCK	5	3000	Green (RoHS & no Sb/Br)	CU NIPDAU	Level-1-260C-UNLIM	Add to cart
LM4040D41ILP	ACTIVE	TO-92	LP	3	1000	Pb-Free (RoHS)	CU SN	N / A for Pkg Type	Add to cart
LM4040D41ILPE3	ACTIVE	TO-92	LP	3	1000	Pb-Free (RoHS)	CU SN	N / A for Pkg Type	Add to cart
LM4040D41ILPR	ACTIVE	TO-92	LP	3	2000	Pb-Free (RoHS)	CU SN	N / A for Pkg Type	Add to cart
LM4040D41ILPRE3	ACTIVE	TO-92	LP	3	2000	Pb-Free (RoHS)	CU SN	N / A for Pkg Type	Add to cart
LM4040D50IDBZR	ACTIVE	SOT-23	DBZ	3	3000	Green (RoHS & no Sb/Br)	CU NIPDAU	Level-1-260C-UNLIM	Add to cart
LM4040D50IDBZRG4	ACTIVE	SOT-23	DBZ	3	3000	Green (RoHS & no Sb/Br)	CU NIPDAU	Level-1-260C-UNLIM	Add to cart
LM4040D50IDBZT	ACTIVE	SOT-23	DBZ	3	250	Green (RoHS & no Sb/Br)	CU NIPDAU	Level-1-260C-UNLIM	Add to cart
LM4040D50IDBZTG4	ACTIVE	SOT-23	DBZ	3	250	Green (RoHS & no Sb/Br)	CU NIPDAU	Level-1-260C-UNLIM	Add to cart

Orderable Device	Status (1)	Package Type	Package Drawing	Pins	Package Qty	Eco Plan (2)	Lead/ Ball Finish	MSL Peak Temp (3)	Samples (Requires Login)
LM4040D50IDCKR	ACTIVE	SC70	DCK	5	3000	Green (RoHS & no Sb/Br)	CU NIPDAU	Level-1-260C-UNLIM	Add to cart
LM4040D50IDCKRE4	ACTIVE	SC70	DCK	5	3000	Green (RoHS & no Sb/Br)	CU NIPDAU	Level-1-260C-UNLIM	Add to cart
LM4040D50IDCKRG4	ACTIVE	SC70	DCK	5	3000	Green (RoHS & no Sb/Br)	CU NIPDAU	Level-1-260C-UNLIM	Add to cart
LM4040D50ILP	ACTIVE	TO-92	LP	3	1000	Pb-Free (RoHS)	CU SN	N / A for Pkg Type	Add to cart
LM4040D50ILPE3	ACTIVE	TO-92	LP	3	1000	Pb-Free (RoHS)	CU SN	N / A for Pkg Type	Add to cart
LM4040D50ILPR	ACTIVE	TO-92	LP	3	2000	Pb-Free (RoHS)	CU SN	N / A for Pkg Type	Add to cart
LM4040D50ILPRE3	ACTIVE	TO-92	LP	3	2000	Pb-Free (RoHS)	CU SN	N / A for Pkg Type	Add to cart
LM4040D50QDBZR	ACTIVE	SOT-23	DBZ	3	3000	Green (RoHS & no Sb/Br)	CU NIPDAU	Level-1-260C-UNLIM	Add to cart
LM4040D50QDBZRG4	ACTIVE	SOT-23	DBZ	3	3000	Green (RoHS & no Sb/Br)	CU NIPDAU	Level-1-260C-UNLIM	Add to cart
LM4040D50QDBZT	ACTIVE	SOT-23	DBZ	3	250	Green (RoHS & no Sb/Br)	CU NIPDAU	Level-1-260C-UNLIM	Add to cart
LM4040D50QDBZTG4	ACTIVE	SOT-23	DBZ	3	250	Green (RoHS & no Sb/Br)	CU NIPDAU	Level-1-260C-UNLIM	Add to cart
LM4040D82IDBZR	ACTIVE	SOT-23	DBZ	3	3000	Green (RoHS & no Sb/Br)	CU NIPDAU	Level-1-260C-UNLIM	Add to cart
LM4040D82IDBZRG4	ACTIVE	SOT-23	DBZ	3	3000	Green (RoHS & no Sb/Br)	CU NIPDAU	Level-1-260C-UNLIM	Add to cart
LM4040D82IDBZT	ACTIVE	SOT-23	DBZ	3	250	Green (RoHS & no Sb/Br)	CU NIPDAU	Level-1-260C-UNLIM	Add to cart
LM4040D82IDBZTG4	ACTIVE	SOT-23	DBZ	3	250	Green (RoHS & no Sb/Br)	CU NIPDAU	Level-1-260C-UNLIM	Add to cart
LM4040D82IDCKR	ACTIVE	SC70	DCK	5	3000	Green (RoHS & no Sb/Br)	CU NIPDAU	Level-1-260C-UNLIM	Add to cart
LM4040D82IDCKRG4	ACTIVE	SC70	DCK	5	3000	Green (RoHS & no Sb/Br)	CU NIPDAU	Level-1-260C-UNLIM	Add to cart
LM4040D82ILP	ACTIVE	TO-92	LP	3	1000	Pb-Free (RoHS)	CU SN	N / A for Pkg Type	Add to cart
LM4040D82ILPE3	ACTIVE	TO-92	LP	3	1000	Pb-Free (RoHS)	CU SN	N / A for Pkg Type	Add to cart
LM4040D82ILPR	ACTIVE	TO-92	LP	3	2000	Pb-Free (RoHS)	CU SN	N / A for Pkg Type	Add to cart
LM4040D82ILPRE3	ACTIVE	TO-92	LP	3	2000	Pb-Free (RoHS)	CU SN	N / A for Pkg Type	Add to cart

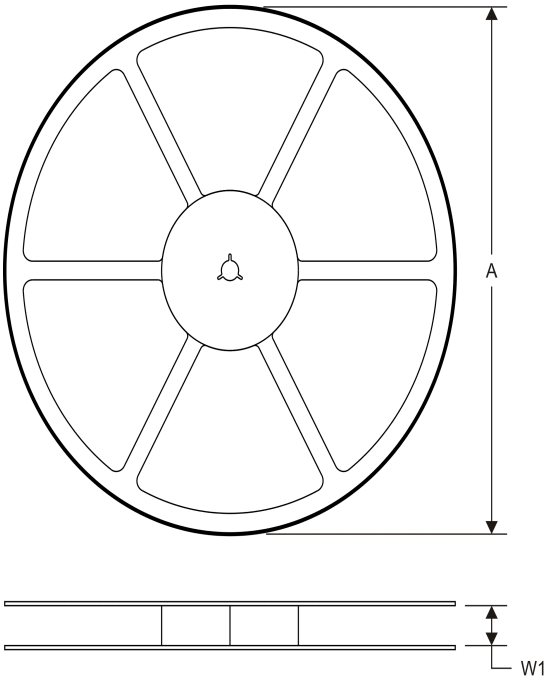
(1) The marketing status values are defined as follows:
ACTIVE: Product device recommended for new designs.
LIFEBUY: TI has announced that the device will be discontinued, and a lifetime-buy period is in effect.
NRND: Not recommended for new designs. Device is in production to support existing customers, but TI does not recommend using this part in a new design.
PREVIEW: Device has been announced but is not in production. Samples may or may not be available.
OBSOLETE: TI has discontinued the production of the device.

(2) Eco Plan - The planned eco-friendly classification: Pb-Free (RoHS), Pb-Free (RoHS Exempt), or Green (RoHS & no Sb/Br) - please check http://www.ti.com/productcontent for the latest availability information and additional product content details.
TBD: The Pb-Free/Green conversion plan has not been defined.
Pb-Free (RoHS): TI's terms "Lead-Free" or "Pb-Free" mean semiconductor products that are compatible with the current RoHS requirements for all 6 substances, including the requirement that lead not exceed 0.1% by weight in homogeneous materials. Where designed to be soldered at high temperatures, TI Pb-Free products are suitable for use in specified lead-free processes.
Pb-Free (RoHS Exempt): This component has a RoHS exemption for either 1) lead-based flip-chip solder bumps used between the die and package, or 2) lead-based die adhesive used between the die and leadframe. The component is otherwise considered Pb-Free (RoHS compatible) as defined above.
Green (RoHS & no Sb/Br): TI defines "Green" to mean Pb-Free (RoHS compatible), and free of Bromine (Br) and Antimony (Sb) based flame retardants (Br or Sb do not exceed 0.1% by weight in homogeneous material)

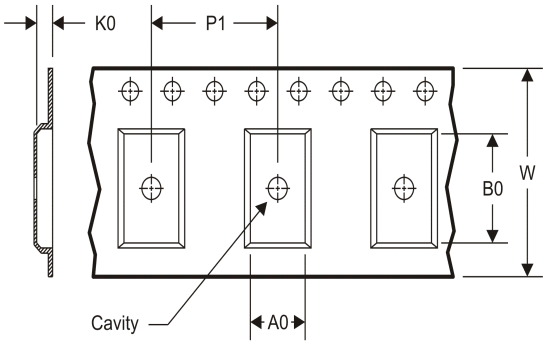
(3) MSL, Peak Temp. -- The Moisture Sensitivity Level rating according to the JEDEC industry standard classifications, and peak solder temperature.

TAPE AND REEL INFORMATION

REEL DIMENSIONS



TAPE DIMENSIONS



A0	Dimension designed to accommodate the component width
B0	Dimension designed to accommodate the component length
K0	Dimension designed to accommodate the component thickness
W	Overall width of the carrier tape
P1	Pitch between successive cavity centers

TAPE AND REEL INFORMATION

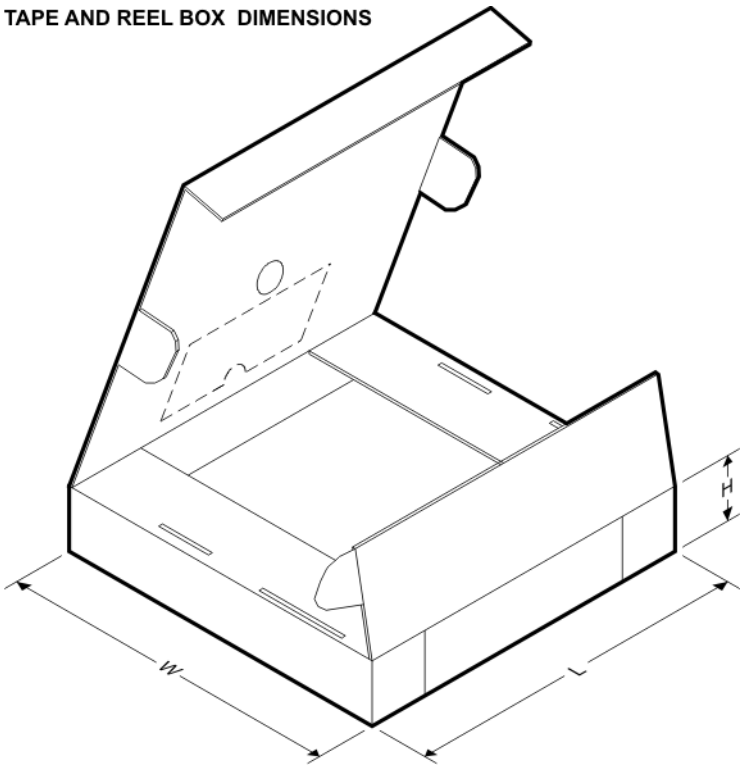
*All dimensions are nominal

Device	Package Type	Package Drawing	Pins	SPQ	Reel Diameter (mm)	Reel Width W1 (mm)	A0 (mm)	B0 (mm)	K0 (mm)	P1 (mm)	W (mm)	Pin1 Quadrant
LM4040A10IDBZR	SOT-23	DBZ	3	3000	179.0	8.4	3.15	2.95	1.22	4.0	8.0	Q3
LM4040A10IDBZT	SOT-23	DBZ	3	250	179.0	8.4	3.15	2.95	1.22	4.0	8.0	Q3
LM4040A10IDCKR	SC70	DCK	5	3000	179.0	8.4	2.2	2.5	1.2	4.0	8.0	Q3
LM4040A20IDBZR	SOT-23	DBZ	3	3000	179.0	8.4	3.15	2.95	1.22	4.0	8.0	Q3
LM4040A20IDBZT	SOT-23	DBZ	3	250	179.0	8.4	3.15	2.95	1.22	4.0	8.0	Q3
LM4040A20IDCKR	SC70	DCK	5	3000	179.0	8.4	2.2	2.5	1.2	4.0	8.0	Q3
LM4040A25IDBZR	SOT-23	DBZ	3	3000	178.0	9.2	3.08	2.8	1.27	4.0	8.0	Q3
LM4040A25IDBZT	SOT-23	DBZ	3	250	178.0	9.2	3.08	2.8	1.27	4.0	8.0	Q3
LM4040A25IDCKR	SC70	DCK	5	3000	179.0	8.4	2.2	2.5	1.2	4.0	8.0	Q3
LM4040A30IDBZR	SOT-23	DBZ	3	3000	179.0	8.4	3.15	2.95	1.22	4.0	8.0	Q3
LM4040A30IDBZT	SOT-23	DBZ	3	250	179.0	8.4	3.15	2.95	1.22	4.0	8.0	Q3
LM4040A30IDCKR	SC70	DCK	5	3000	179.0	8.4	2.2	2.5	1.2	4.0	8.0	Q3
LM4040A41IDBZR	SOT-23	DBZ	3	3000	179.0	8.4	3.15	2.95	1.22	4.0	8.0	Q3
LM4040A41IDBZT	SOT-23	DBZ	3	250	179.0	8.4	3.15	2.95	1.22	4.0	8.0	Q3
LM4040A41IDCKR	SC70	DCK	5	3000	179.0	8.4	2.2	2.5	1.2	4.0	8.0	Q3
LM4040A50IDBZR	SOT-23	DBZ	3	3000	178.0	9.2	3.08	2.8	1.27	4.0	8.0	Q3
LM4040A50IDBZT	SOT-23	DBZ	3	250	178.0	9.2	3.08	2.8	1.27	4.0	8.0	Q3
LM4040A50IDCKR	SC70	DCK	5	3000	179.0	8.4	2.2	2.5	1.2	4.0	8.0	Q3

Device	Package Type	Package Drawing	Pins	SPQ	Reel Diameter (mm)	Reel Width W1 (mm)	A0 (mm)	B0 (mm)	K0 (mm)	P1 (mm)	W (mm)	Pin1 Quadrant
LM4040A82IDBZR	SOT-23	DBZ	3	3000	179.0	8.4	3.15	2.95	1.22	4.0	8.0	Q3
LM4040A82IDBZT	SOT-23	DBZ	3	250	179.0	8.4	3.15	2.95	1.22	4.0	8.0	Q3
LM4040A82IDCKR	SC70	DCK	5	3000	179.0	8.4	2.2	2.5	1.2	4.0	8.0	Q3
LM4040B10IDBZR	SOT-23	DBZ	3	3000	179.0	8.4	3.15	2.95	1.22	4.0	8.0	Q3
LM4040B10IDBZT	SOT-23	DBZ	3	250	179.0	8.4	3.15	2.95	1.22	4.0	8.0	Q3
LM4040B10IDCKR	SC70	DCK	5	3000	179.0	8.4	2.2	2.5	1.2	4.0	8.0	Q3
LM4040B20IDBZR	SOT-23	DBZ	3	3000	179.0	8.4	3.15	2.95	1.22	4.0	8.0	Q3
LM4040B20IDBZT	SOT-23	DBZ	3	250	179.0	8.4	3.15	2.95	1.22	4.0	8.0	Q3
LM4040B20IDCKR	SC70	DCK	5	3000	179.0	8.4	2.2	2.5	1.2	4.0	8.0	Q3
LM4040B25IDBZR	SOT-23	DBZ	3	3000	178.0	9.2	3.08	2.8	1.27	4.0	8.0	Q3
LM4040B25IDBZT	SOT-23	DBZ	3	250	178.0	9.2	3.08	2.8	1.27	4.0	8.0	Q3
LM4040B25IDCKR	SC70	DCK	5	3000	179.0	8.4	2.2	2.5	1.2	4.0	8.0	Q3
LM4040B30IDBZR	SOT-23	DBZ	3	3000	179.0	8.4	3.15	2.95	1.22	4.0	8.0	Q3
LM4040B30IDBZT	SOT-23	DBZ	3	250	179.0	8.4	3.15	2.95	1.22	4.0	8.0	Q3
LM4040B30IDCKR	SC70	DCK	5	3000	179.0	8.4	2.2	2.5	1.2	4.0	8.0	Q3
LM4040B41IDBZR	SOT-23	DBZ	3	3000	179.0	8.4	3.15	2.95	1.22	4.0	8.0	Q3
LM4040B41IDBZT	SOT-23	DBZ	3	250	179.0	8.4	3.15	2.95	1.22	4.0	8.0	Q3
LM4040B41IDCKR	SC70	DCK	5	3000	179.0	8.4	2.2	2.5	1.2	4.0	8.0	Q3
LM4040B50IDBZR	SOT-23	DBZ	3	3000	178.0	9.2	3.08	2.8	1.27	4.0	8.0	Q3
LM4040B50IDBZT	SOT-23	DBZ	3	250	178.0	9.2	3.08	2.8	1.27	4.0	8.0	Q3
LM4040B50IDCKR	SC70	DCK	5	3000	179.0	8.4	2.2	2.5	1.2	4.0	8.0	Q3
LM4040B82IDBZR	SOT-23	DBZ	3	3000	179.0	8.4	3.15	2.95	1.22	4.0	8.0	Q3
LM4040B82IDBZT	SOT-23	DBZ	3	250	179.0	8.4	3.15	2.95	1.22	4.0	8.0	Q3
LM4040B82IDCKR	SC70	DCK	5	3000	179.0	8.4	2.2	2.5	1.2	4.0	8.0	Q3
LM4040C10IDBZR	SOT-23	DBZ	3	3000	179.0	8.4	3.15	2.95	1.22	4.0	8.0	Q3
LM4040C10IDBZT	SOT-23	DBZ	3	250	179.0	8.4	3.15	2.95	1.22	4.0	8.0	Q3
LM4040C10IDCKR	SC70	DCK	5	3000	179.0	8.4	2.2	2.5	1.2	4.0	8.0	Q3
LM4040C20IDBZR	SOT-23	DBZ	3	3000	179.0	8.4	3.15	2.95	1.22	4.0	8.0	Q3
LM4040C20IDBZT	SOT-23	DBZ	3	250	179.0	8.4	3.15	2.95	1.22	4.0	8.0	Q3
LM4040C20IDCKR	SC70	DCK	5	3000	179.0	8.4	2.2	2.5	1.2	4.0	8.0	Q3
LM4040C20QDBZR	SOT-23	DBZ	3	3000	179.0	8.4	3.15	2.95	1.22	4.0	8.0	Q3
LM4040C20QDBZT	SOT-23	DBZ	3	250	179.0	8.4	3.15	2.95	1.22	4.0	8.0	Q3
LM4040C25IDBZR	SOT-23	DBZ	3	3000	178.0	9.2	3.08	2.8	1.27	4.0	8.0	Q3
LM4040C25IDBZT	SOT-23	DBZ	3	250	178.0	9.2	3.08	2.8	1.27	4.0	8.0	Q3
LM4040C25IDCKR	SC70	DCK	5	3000	179.0	8.4	2.2	2.5	1.2	4.0	8.0	Q3
LM4040C25IDCKT	SC70	DCK	5	250	179.0	8.4	2.2	2.5	1.2	4.0	8.0	Q3
LM4040C25QDBZR	SOT-23	DBZ	3	3000	178.0	9.2	3.08	2.8	1.27	4.0	8.0	Q3
LM4040C25QDBZT	SOT-23	DBZ	3	250	178.0	9.2	3.08	2.8	1.27	4.0	8.0	Q3
LM4040C30IDBZR	SOT-23	DBZ	3	3000	179.0	8.4	3.15	2.95	1.22	4.0	8.0	Q3
LM4040C30IDBZT	SOT-23	DBZ	3	250	179.0	8.4	3.15	2.95	1.22	4.0	8.0	Q3
LM4040C30IDCKR	SC70	DCK	5	3000	179.0	8.4	2.2	2.5	1.2	4.0	8.0	Q3
LM4040C30QDBZR	SOT-23	DBZ	3	3000	179.0	8.4	3.15	2.95	1.22	4.0	8.0	Q3
LM4040C30QDBZT	SOT-23	DBZ	3	250	179.0	8.4	3.15	2.95	1.22	4.0	8.0	Q3

Device	Package Type	Package Drawing	Pins	SPQ	Reel Diameter (mm)	Reel Width W1 (mm)	A0 (mm)	B0 (mm)	K0 (mm)	P1 (mm)	W (mm)	Pin1 Quadrant
LM4040C41IDBZR	SOT-23	DBZ	3	3000	179.0	8.4	3.15	2.95	1.22	4.0	8.0	Q3
LM4040C41IDBZT	SOT-23	DBZ	3	250	179.0	8.4	3.15	2.95	1.22	4.0	8.0	Q3
LM4040C41IDCKR	SC70	DCK	5	3000	179.0	8.4	2.2	2.5	1.2	4.0	8.0	Q3
LM4040C50IDBZR	SOT-23	DBZ	3	3000	178.0	9.2	3.08	2.8	1.27	4.0	8.0	Q3
LM4040C50IDBZT	SOT-23	DBZ	3	250	178.0	9.2	3.08	2.8	1.27	4.0	8.0	Q3
LM4040C50IDCKR	SC70	DCK	5	3000	179.0	8.4	2.2	2.5	1.2	4.0	8.0	Q3
LM4040C50QDBZR	SOT-23	DBZ	3	3000	178.0	9.2	3.08	2.8	1.27	4.0	8.0	Q3
LM4040C50QDBZT	SOT-23	DBZ	3	250	178.0	9.2	3.08	2.8	1.27	4.0	8.0	Q3
LM4040C82IDBZR	SOT-23	DBZ	3	3000	179.0	8.4	3.15	2.95	1.22	4.0	8.0	Q3
LM4040C82IDBZT	SOT-23	DBZ	3	250	179.0	8.4	3.15	2.95	1.22	4.0	8.0	Q3
LM4040C82IDCKR	SC70	DCK	5	3000	179.0	8.4	2.2	2.5	1.2	4.0	8.0	Q3
LM4040D20IDBZR	SOT-23	DBZ	3	3000	179.0	8.4	3.15	2.95	1.22	4.0	8.0	Q3
LM4040D20IDBZT	SOT-23	DBZ	3	250	179.0	8.4	3.15	2.95	1.22	4.0	8.0	Q3
LM4040D20IDCKR	SC70	DCK	5	3000	179.0	8.4	2.2	2.5	1.2	4.0	8.0	Q3
LM4040D20QDBZR	SOT-23	DBZ	3	3000	179.0	8.4	3.15	2.95	1.22	4.0	8.0	Q3
LM4040D20QDBZT	SOT-23	DBZ	3	250	179.0	8.4	3.15	2.95	1.22	4.0	8.0	Q3
LM4040D25IDBZR	SOT-23	DBZ	3	3000	178.0	9.2	3.08	2.8	1.27	4.0	8.0	Q3
LM4040D25IDBZT	SOT-23	DBZ	3	250	178.0	9.2	3.08	2.8	1.27	4.0	8.0	Q3
LM4040D25IDCKR	SC70	DCK	5	3000	179.0	8.4	2.2	2.5	1.2	4.0	8.0	Q3
LM4040D25IDCKT	SC70	DCK	5	250	179.0	8.4	2.2	2.5	1.2	4.0	8.0	Q3
LM4040D25QDBZR	SOT-23	DBZ	3	3000	178.0	9.2	3.08	2.8	1.27	4.0	8.0	Q3
LM4040D25QDBZT	SOT-23	DBZ	3	250	178.0	9.2	3.08	2.8	1.27	4.0	8.0	Q3
LM4040D30IDBZR	SOT-23	DBZ	3	3000	179.0	8.4	3.15	2.95	1.22	4.0	8.0	Q3
LM4040D30IDBZT	SOT-23	DBZ	3	250	179.0	8.4	3.15	2.95	1.22	4.0	8.0	Q3
LM4040D30IDCKR	SC70	DCK	5	3000	179.0	8.4	2.2	2.5	1.2	4.0	8.0	Q3
LM4040D30QDBZR	SOT-23	DBZ	3	3000	179.0	8.4	3.15	2.95	1.22	4.0	8.0	Q3
LM4040D30QDBZT	SOT-23	DBZ	3	250	179.0	8.4	3.15	2.95	1.22	4.0	8.0	Q3
LM4040D41IDBZR	SOT-23	DBZ	3	3000	179.0	8.4	3.15	2.95	1.22	4.0	8.0	Q3
LM4040D41IDBZT	SOT-23	DBZ	3	250	179.0	8.4	3.15	2.95	1.22	4.0	8.0	Q3
LM4040D41IDCKR	SC70	DCK	5	3000	179.0	8.4	2.2	2.5	1.2	4.0	8.0	Q3
LM4040D50IDBZR	SOT-23	DBZ	3	3000	178.0	9.2	3.08	2.8	1.27	4.0	8.0	Q3
LM4040D50IDBZT	SOT-23	DBZ	3	250	178.0	9.2	3.08	2.8	1.27	4.0	8.0	Q3
LM4040D50IDCKR	SC70	DCK	5	3000	179.0	8.4	2.2	2.5	1.2	4.0	8.0	Q3
LM4040D50QDBZR	SOT-23	DBZ	3	3000	178.0	9.2	3.08	2.8	1.27	4.0	8.0	Q3
LM4040D50QDBZT	SOT-23	DBZ	3	250	178.0	9.2	3.08	2.8	1.27	4.0	8.0	Q3
LM4040D82IDBZR	SOT-23	DBZ	3	3000	179.0	8.4	3.15	2.95	1.22	4.0	8.0	Q3
LM4040D82IDBZT	SOT-23	DBZ	3	250	179.0	8.4	3.15	2.95	1.22	4.0	8.0	Q3
LM4040D82IDCKR	SC70	DCK	5	3000	179.0	8.4	2.2	2.5	1.2	4.0	8.0	Q3

TAPE AND REEL BOX DIMENSIONS



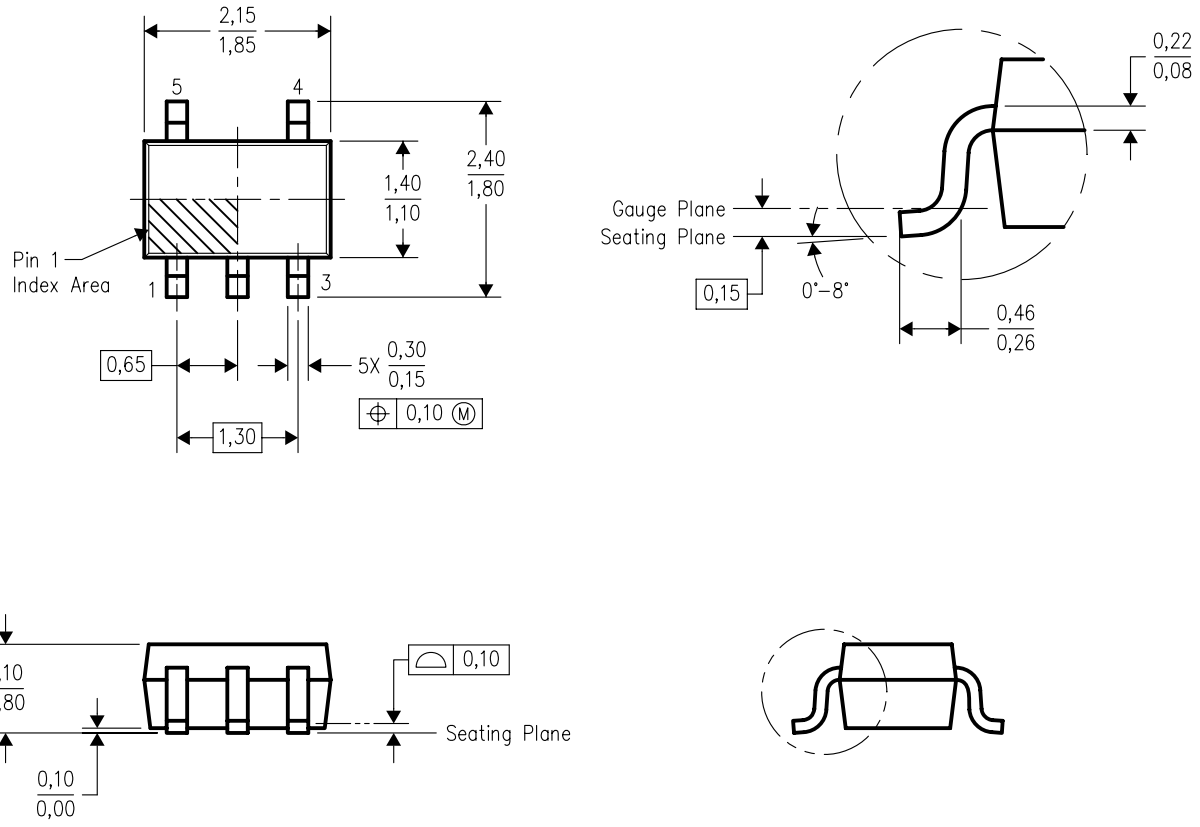
*All dimensions are nominal

Device	Package Type	Package Drawing	Pins	SPQ	Length (mm)	Width (mm)	Height (mm)
LM4040A10IDBZR	SOT-23	DBZ	3	3000	203.0	203.0	35.0
LM4040A10IDBZT	SOT-23	DBZ	3	250	203.0	203.0	35.0
LM4040A10IDCKR	SC70	DCK	5	3000	203.0	203.0	35.0
LM4040A20IDBZR	SOT-23	DBZ	3	3000	203.0	203.0	35.0
LM4040A20IDBZT	SOT-23	DBZ	3	250	203.0	203.0	35.0
LM4040A20IDCKR	SC70	DCK	5	3000	203.0	203.0	35.0
LM4040A25IDBZR	SOT-23	DBZ	3	3000	180.0	180.0	18.0
LM4040A25IDBZT	SOT-23	DBZ	3	250	180.0	180.0	18.0
LM4040A25IDCKR	SC70	DCK	5	3000	203.0	203.0	35.0
LM4040A30IDBZR	SOT-23	DBZ	3	3000	203.0	203.0	35.0
LM4040A30IDBZT	SOT-23	DBZ	3	250	203.0	203.0	35.0
LM4040A30IDCKR	SC70	DCK	5	3000	203.0	203.0	35.0
LM4040A41IDBZR	SOT-23	DBZ	3	3000	203.0	203.0	35.0
LM4040A41IDBZT	SOT-23	DBZ	3	250	203.0	203.0	35.0
LM4040A41IDCKR	SC70	DCK	5	3000	203.0	203.0	35.0
LM4040A50IDBZR	SOT-23	DBZ	3	3000	180.0	180.0	18.0
LM4040A50IDBZT	SOT-23	DBZ	3	250	180.0	180.0	18.0
LM4040A50IDCKR	SC70	DCK	5	3000	203.0	203.0	35.0
LM4040A82IDBZR	SOT-23	DBZ	3	3000	203.0	203.0	35.0
LM4040A82IDBZT	SOT-23	DBZ	3	250	203.0	203.0	35.0

Device	Package Type	Package Drawing	Pins	SPQ	Length (mm)	Width (mm)	Height (mm)
LM4040A82IDCKR	SC70	DCK	5	3000	203.0	203.0	35.0
LM4040B10IDBZR	SOT-23	DBZ	3	3000	203.0	203.0	35.0
LM4040B10IDBZT	SOT-23	DBZ	3	250	203.0	203.0	35.0
LM4040B10IDCKR	SC70	DCK	5	3000	203.0	203.0	35.0
LM4040B20IDBZR	SOT-23	DBZ	3	3000	203.0	203.0	35.0
LM4040B20IDBZT	SOT-23	DBZ	3	250	203.0	203.0	35.0
LM4040B20IDCKR	SC70	DCK	5	3000	203.0	203.0	35.0
LM4040B25IDBZR	SOT-23	DBZ	3	3000	180.0	180.0	18.0
LM4040B25IDBZT	SOT-23	DBZ	3	250	180.0	180.0	18.0
LM4040B25IDCKR	SC70	DCK	5	3000	203.0	203.0	35.0
LM4040B30IDBZR	SOT-23	DBZ	3	3000	203.0	203.0	35.0
LM4040B30IDBZT	SOT-23	DBZ	3	250	203.0	203.0	35.0
LM4040B30IDCKR	SC70	DCK	5	3000	203.0	203.0	35.0
LM4040B41IDBZR	SOT-23	DBZ	3	3000	203.0	203.0	35.0
LM4040B41IDBZT	SOT-23	DBZ	3	250	203.0	203.0	35.0
LM4040B41IDCKR	SC70	DCK	5	3000	203.0	203.0	35.0
LM4040B50IDBZR	SOT-23	DBZ	3	3000	180.0	180.0	18.0
LM4040B50IDBZT	SOT-23	DBZ	3	250	180.0	180.0	18.0
LM4040B50IDCKR	SC70	DCK	5	3000	203.0	203.0	35.0
LM4040B82IDBZR	SOT-23	DBZ	3	3000	203.0	203.0	35.0
LM4040B82IDBZT	SOT-23	DBZ	3	250	203.0	203.0	35.0
LM4040B82IDCKR	SC70	DCK	5	3000	203.0	203.0	35.0
LM4040C10IDBZR	SOT-23	DBZ	3	3000	203.0	203.0	35.0
LM4040C10IDBZT	SOT-23	DBZ	3	250	203.0	203.0	35.0
LM4040C10IDCKR	SC70	DCK	5	3000	203.0	203.0	35.0
LM4040C20IDBZR	SOT-23	DBZ	3	3000	203.0	203.0	35.0
LM4040C20IDBZT	SOT-23	DBZ	3	250	203.0	203.0	35.0
LM4040C20IDCKR	SC70	DCK	5	3000	203.0	203.0	35.0
LM4040C20QDBZR	SOT-23	DBZ	3	3000	203.0	203.0	35.0
LM4040C20QDBZT	SOT-23	DBZ	3	250	203.0	203.0	35.0
LM4040C25IDBZR	SOT-23	DBZ	3	3000	180.0	180.0	18.0
LM4040C25IDBZT	SOT-23	DBZ	3	250	180.0	180.0	18.0
LM4040C25IDCKR	SC70	DCK	5	3000	203.0	203.0	35.0
LM4040C25IDCKT	SC70	DCK	5	250	203.0	203.0	35.0
LM4040C25QDBZR	SOT-23	DBZ	3	3000	180.0	180.0	18.0
LM4040C25QDBZT	SOT-23	DBZ	3	250	180.0	180.0	18.0
LM4040C30IDBZR	SOT-23	DBZ	3	3000	203.0	203.0	35.0
LM4040C30IDBZT	SOT-23	DBZ	3	250	203.0	203.0	35.0
LM4040C30IDCKR	SC70	DCK	5	3000	203.0	203.0	35.0
LM4040C30QDBZR	SOT-23	DBZ	3	3000	203.0	203.0	35.0
LM4040C30QDBZT	SOT-23	DBZ	3	250	203.0	203.0	35.0
LM4040C41IDBZR	SOT-23	DBZ	3	3000	203.0	203.0	35.0
LM4040C41IDBZT	SOT-23	DBZ	3	250	203.0	203.0	35.0
LM4040C41IDCKR	SC70	DCK	5	3000	203.0	203.0	35.0

Device	Package Type	Package Drawing	Pins	SPQ	Length (mm)	Width (mm)	Height (mm)
LM4040C50IDBZR	SOT-23	DBZ	3	3000	180.0	180.0	18.0
LM4040C50IDBZT	SOT-23	DBZ	3	250	180.0	180.0	18.0
LM4040C50IDCKR	SC70	DCK	5	3000	203.0	203.0	35.0
LM4040C50QDBZR	SOT-23	DBZ	3	3000	180.0	180.0	18.0
LM4040C50QDBZT	SOT-23	DBZ	3	250	180.0	180.0	18.0
LM4040C82IDBZR	SOT-23	DBZ	3	3000	203.0	203.0	35.0
LM4040C82IDBZT	SOT-23	DBZ	3	250	203.0	203.0	35.0
LM4040C82IDCKR	SC70	DCK	5	3000	203.0	203.0	35.0
LM4040D20IDBZR	SOT-23	DBZ	3	3000	203.0	203.0	35.0
LM4040D20IDBZT	SOT-23	DBZ	3	250	203.0	203.0	35.0
LM4040D20IDCKR	SC70	DCK	5	3000	203.0	203.0	35.0
LM4040D20QDBZR	SOT-23	DBZ	3	3000	203.0	203.0	35.0
LM4040D20QDBZT	SOT-23	DBZ	3	250	203.0	203.0	35.0
LM4040D25IDBZR	SOT-23	DBZ	3	3000	180.0	180.0	18.0
LM4040D25IDBZT	SOT-23	DBZ	3	250	180.0	180.0	18.0
LM4040D25IDCKR	SC70	DCK	5	3000	203.0	203.0	35.0
LM4040D25IDCKT	SC70	DCK	5	250	203.0	203.0	35.0
LM4040D25QDBZR	SOT-23	DBZ	3	3000	180.0	180.0	18.0
LM4040D25QDBZT	SOT-23	DBZ	3	250	180.0	180.0	18.0
LM4040D30IDBZR	SOT-23	DBZ	3	3000	203.0	203.0	35.0
LM4040D30IDBZT	SOT-23	DBZ	3	250	203.0	203.0	35.0
LM4040D30IDCKR	SC70	DCK	5	3000	203.0	203.0	35.0
LM4040D30QDBZR	SOT-23	DBZ	3	3000	203.0	203.0	35.0
LM4040D30QDBZT	SOT-23	DBZ	3	250	203.0	203.0	35.0
LM4040D41IDBZR	SOT-23	DBZ	3	3000	203.0	203.0	35.0
LM4040D41IDBZT	SOT-23	DBZ	3	250	203.0	203.0	35.0
LM4040D41IDCKR	SC70	DCK	5	3000	203.0	203.0	35.0
LM4040D50IDBZR	SOT-23	DBZ	3	3000	180.0	180.0	18.0
LM4040D50IDBZT	SOT-23	DBZ	3	250	180.0	180.0	18.0
LM4040D50IDCKR	SC70	DCK	5	3000	203.0	203.0	35.0
LM4040D50QDBZR	SOT-23	DBZ	3	3000	180.0	180.0	18.0
LM4040D50QDBZT	SOT-23	DBZ	3	250	180.0	180.0	18.0
LM4040D82IDBZR	SOT-23	DBZ	3	3000	203.0	203.0	35.0
LM4040D82IDBZT	SOT-23	DBZ	3	250	203.0	203.0	35.0
LM4040D82IDCKR	SC70	DCK	5	3000	203.0	203.0	35.0

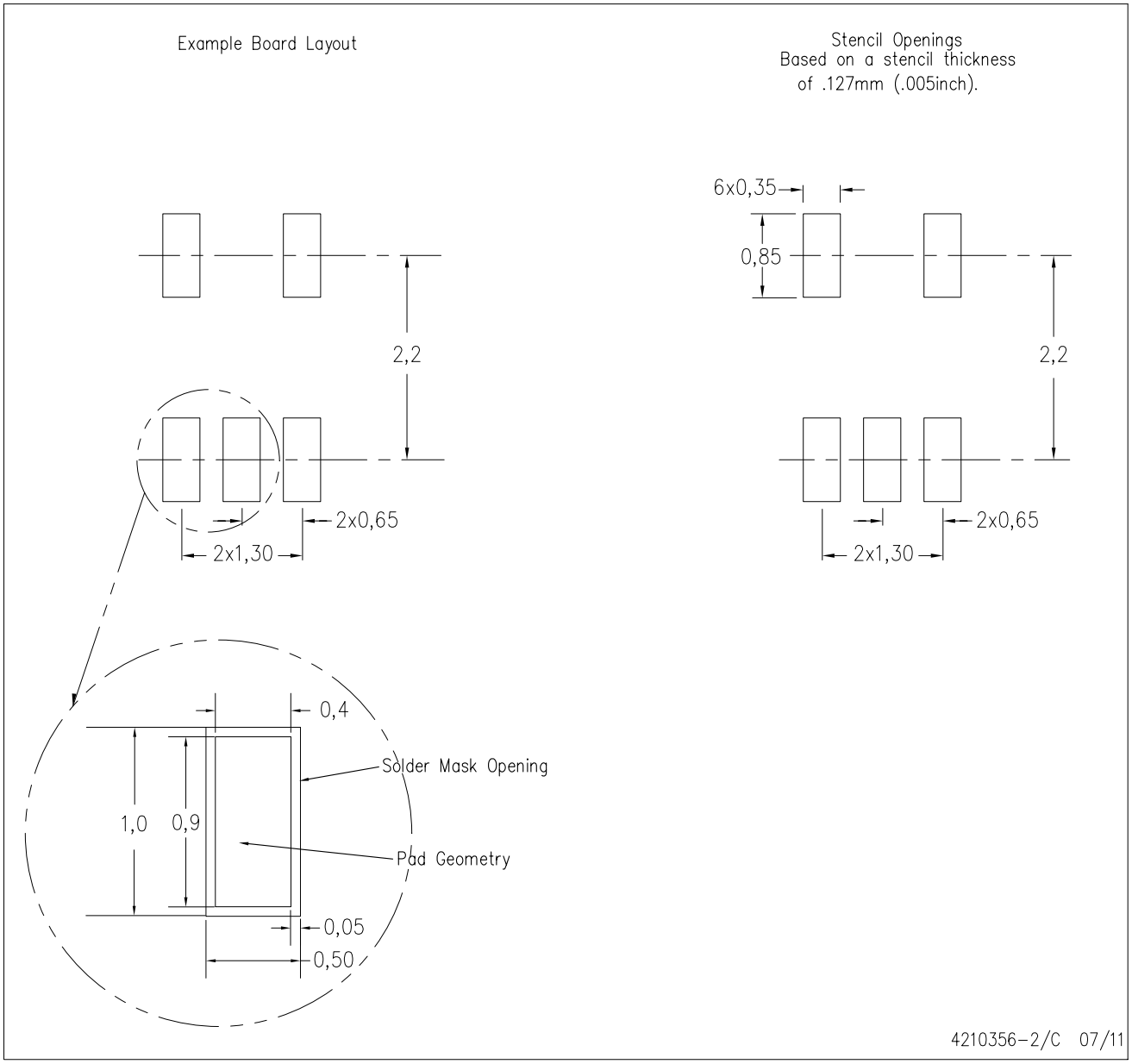
DCK (R–PDSO–G5) PLASTIC SMALL–OUTLINE PACKAGE



4093553–3/G 01/2007

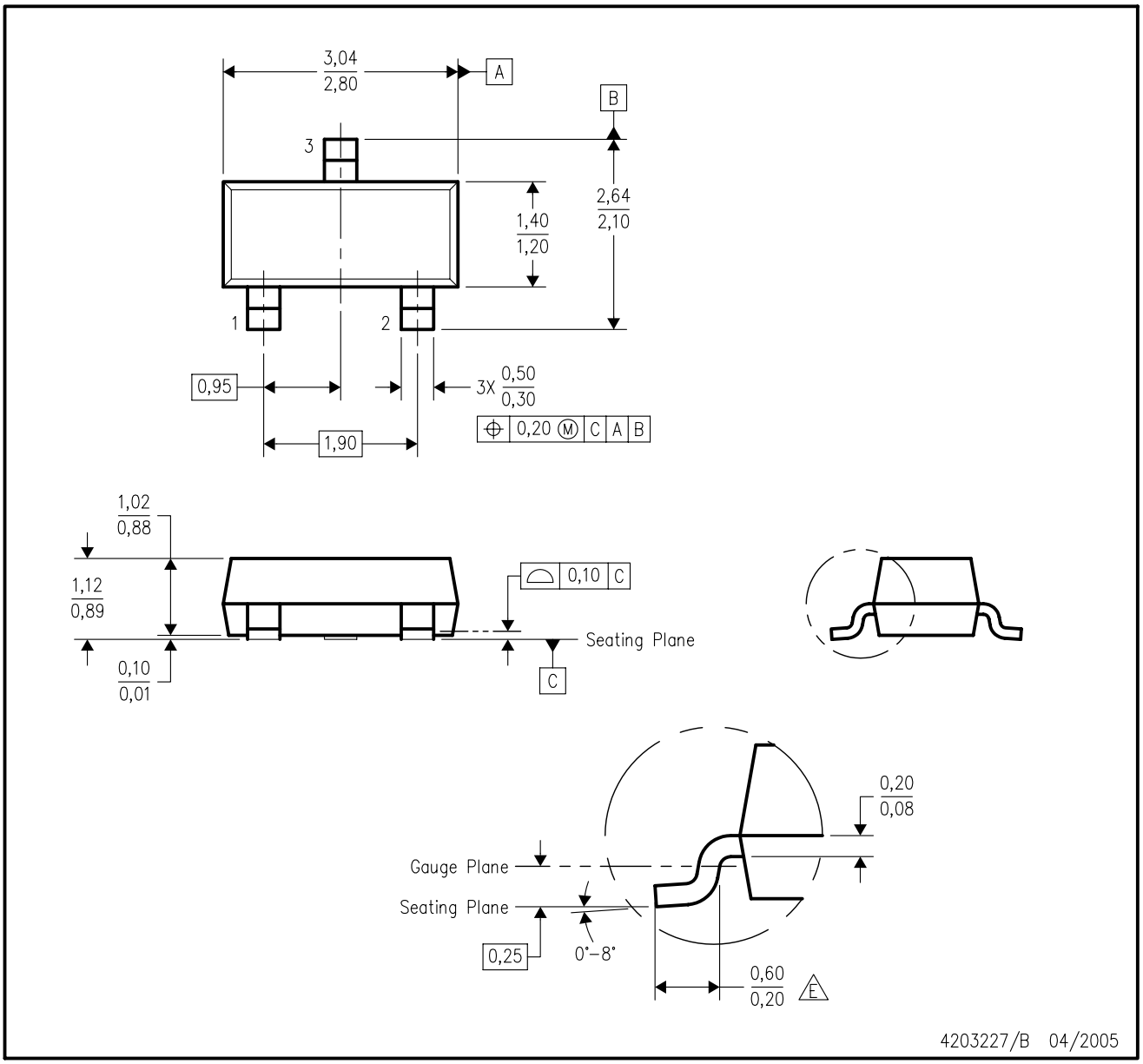
NOTES:
A. All linear dimensions are in millimeters.
B. This drawing is subject to change without notice.
C. Body dimensions do not include mold flash or protrusion. Mold flash and protrusion shall not exceed 0.15 per side.
D. Falls within JEDEC MO–203 variation AA.

DCK (R–PDSO–G5) PLASTIC SMALL OUTLINE



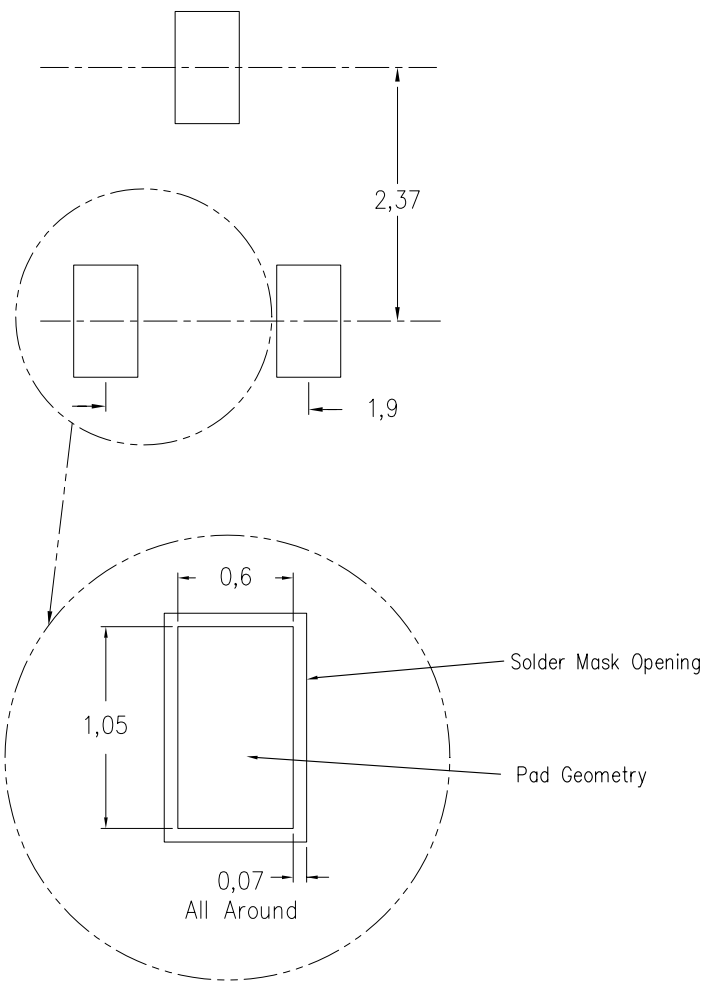
NOTES:
A. All linear dimensions are in millimeters.
B. This drawing is subject to change without notice.
C. Customers should place a note on the circuit board fabrication drawing not to alter the center solder mask defined pad.
D. Publication IPC–7351 is recommended for alternate designs.
E. Laser cutting apertures with trapezoidal walls and also rounding corners will offer better paste release. Customers should contact their board assembly site for stencil design recommendations. Example stencil design based on a 50% volumetric metal load solder paste. Refer to IPC–7525 for other stencil recommendations.

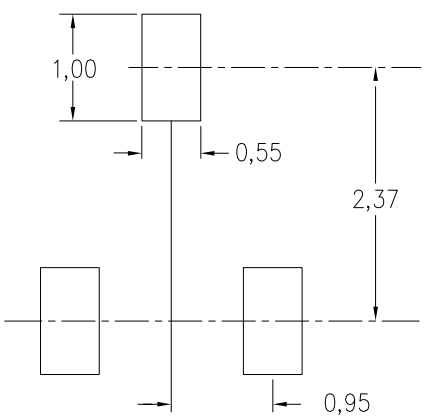
DBZ (R–PDSO–G3) PLASTIC SMALL–OUTLINE



NOTES:
A. All linear dimensions are in millimeters. Dimensioning and tolerancing per ASME Y14.5M–1994.
B. This drawing is subject to change without notice.
C. Lead dimensions are inclusive of plating.
D. Body dimensions are exclusive of mold flash and protrusion. Mold flash and protrusion not to exceed 0.25 per side.
E. Falls within JEDEC TO–236 variation AB, except minimum foot length.

DBZ (R–PDSO–G3) PLASTIC SMALL OUTLINE





4212057/A 08/11

NOTES:
A. All linear dimensions are in millimeters.
B. This drawing is subject to change without notice.
C. Customers should place a note on the circuit board fabrication drawing not to alter the center solder mask defined pad.
D. Publication IPC–7351 is recommended for alternate designs.
E. Laser cutting apertures with trapezoidal walls and also rounding corners will offer better paste release. Customers should contact their board assembly site for stencil design recommendations. Example stencil design based on a 50% volumetric metal load solder paste. Refer to IPC–7525 for other stencil recommendations.

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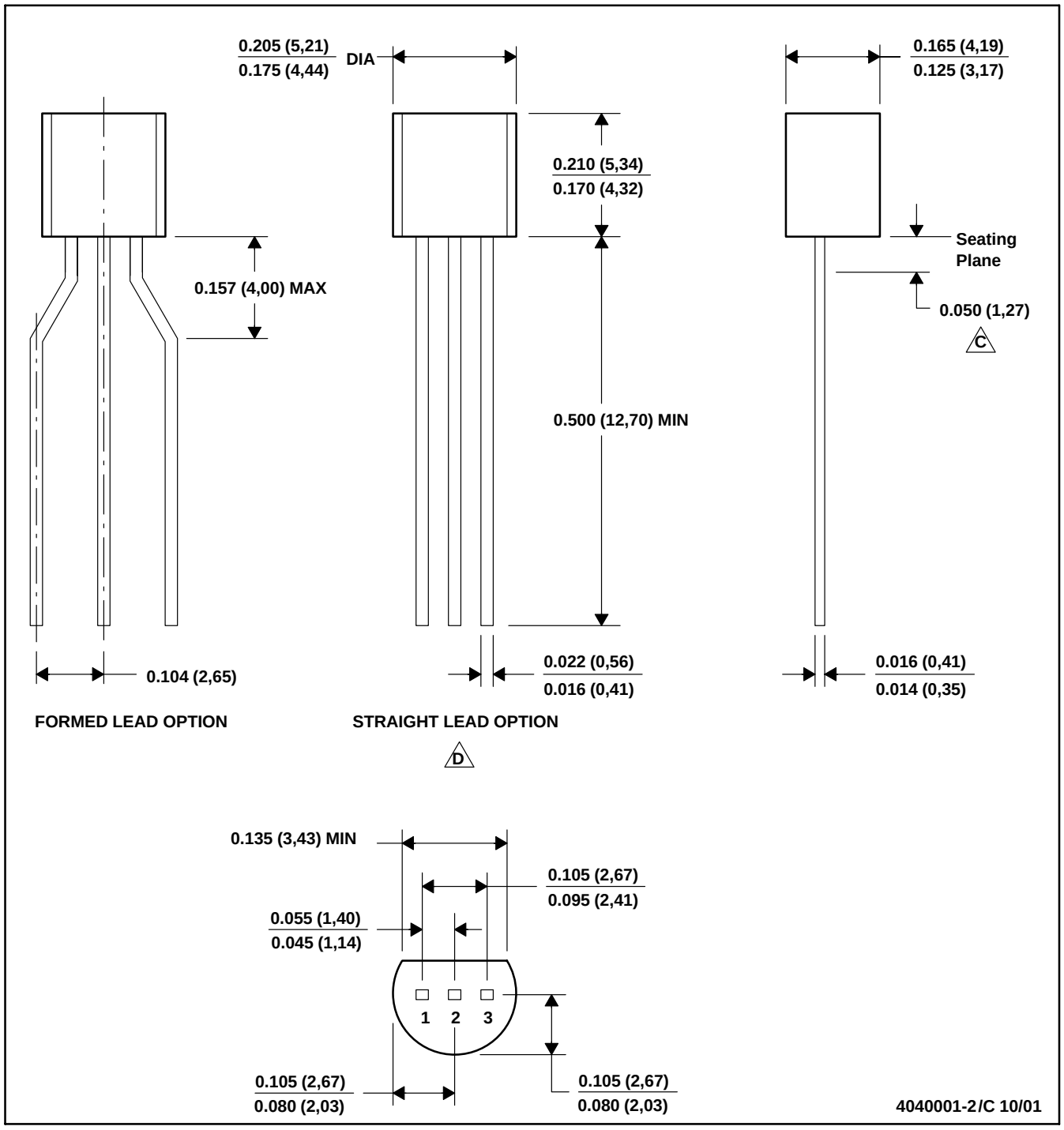
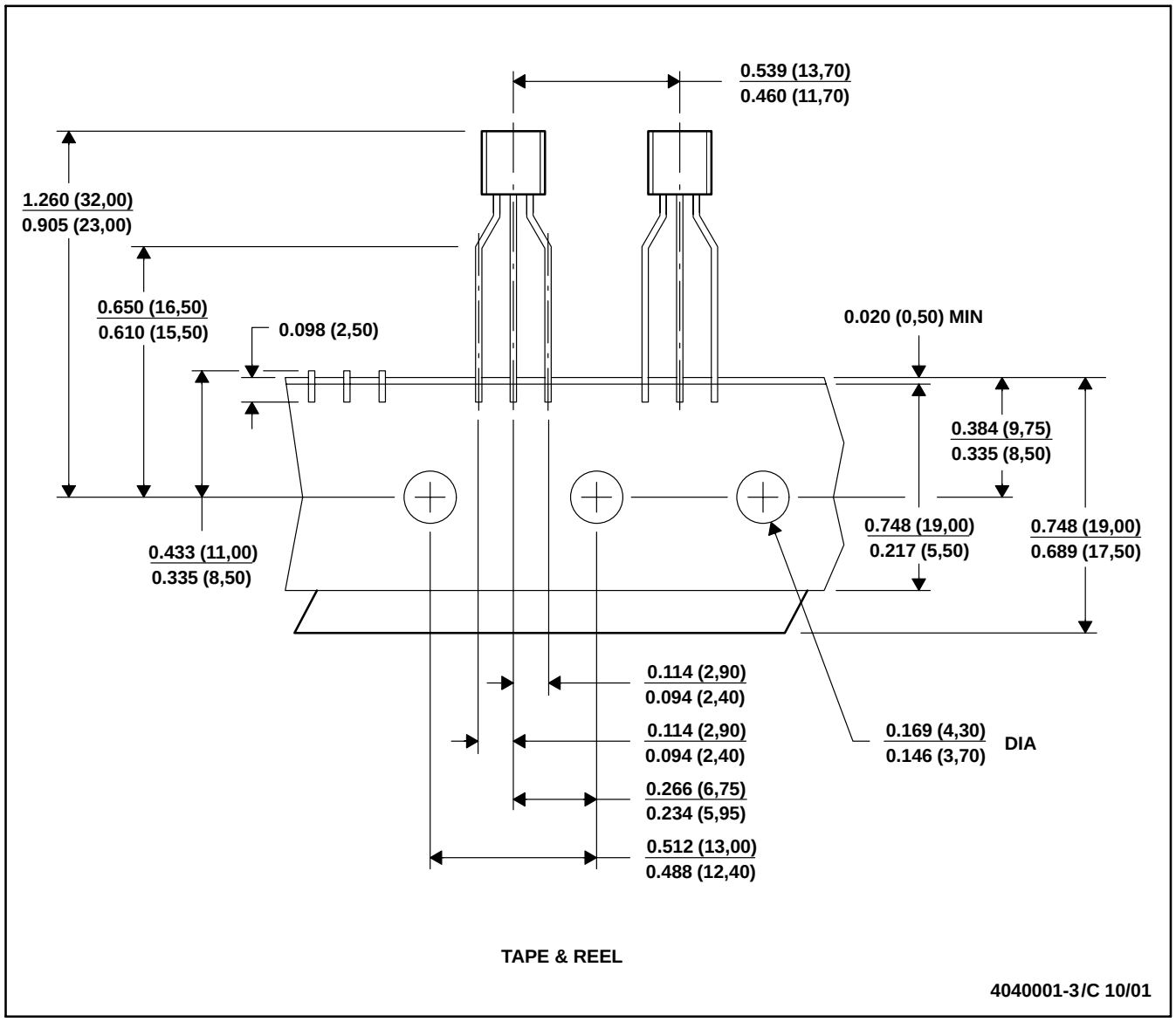
LP (O-PBCY-W3) **PLASTIC CYLINDRICAL PACKAGE**



NOTES: A. All linear dimensions are in inches (millimeters).
B. This drawing is subject to change without notice.
C. Lead dimensions are not controlled within this area
D. FAlls within JEDEC TO -226 Variation AA (TO-226 replaces TO-92)
E. Shipping Method:
Straight lead option available in bulk pack only.
Formed lead option available in tape & reel or ammo pack.

LP (O-PBCY-W3) **PLASTIC CYLINDRICAL PACKAGE**



NOTES: A. All linear dimensions are in inches (millimeters).
B. This drawing is subject to change without notice.
C. Tape and Reel information for the Format Lead Option package.

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