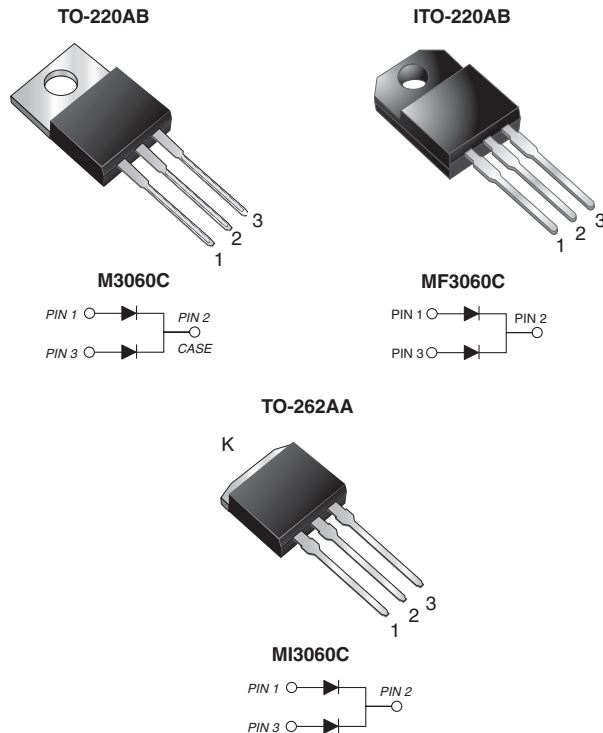


## Dual Common Cathode Schottky Rectifier



### FEATURES

- Power pack
- Guardring for overvoltage protection
- Lower power losses, high efficiency
- Low forward voltage drop
- High forward surge capability
- High frequency operation
- Solder dip 275 °C max.10 s, per JESD 22-B106
- Material categorization: For definitions of compliance please see [www.vishay.com/doc?99912](http://www.vishay.com/doc?99912)


**RoHS**  
COMPLIANT

### TYPICAL APPLICATIONS

For use in low voltage, high frequency rectifier of switching mode power supplies, freewheeling diodes, OR-ing, DC/DC converters, or polarity protection application.

### MECHANICAL DATA

**Case:** TO-220AB, ITO-220AB, TO-262AA

Molding compound meets UL 94 V-0 flammability rating  
Base P/N-E3 - RoHS-compliant, commercial grade

**Terminals:** Matte tin plated leads, solderable per J-STD-002 and JESD 22-B102

E3 suffix meets JESD 201 class 1A whisker test

**Polarity:** As marked

**Mounting Torque:** 10 in-lbs maximum

PRIMARY CHARACTERISTICS	
$I_{F(AV)}$	2 x 15 A
$V_{RRM}$	60 V
$I_{FSM}$	160 A
$V_F$	0.547 V
$T_J$ max.	150 °C
Package	TO-220AB, ITO-220AB, TO-262AA
Diode variations	Dual Common Cathode

MAXIMUM RATINGS ( $T_A = 25$ °C unless otherwise noted)					
PARAMETER	SYMBOL	M3060C	MF3060C	MI3060C	UNIT
Maximum repetitive peak reverse voltage	$V_{RRM}$		60		V
Maximum average forward rectified current	$I_{F(AV)}$	total device	30		A
		per diode	15		
Peak forward surge current 8.3 ms single half sine-wave superimposed on rated load per diode	$I_{FSM}$		160		A
Peak repetitive reverse current per diode at $t_p = 2$ $\mu$ s, 1 kHz	$I_{RRM}$		0.5		A
Voltage rate of change (rated $V_R$ )	$dV/dt$		10 000		V/ $\mu$ s
Operating junction and storage temperature range	$T_J, T_{STG}$		- 65 to + 150		°C
Isolation voltage from terminal to heatsink with $t = 1$ min	$V_{AC}$		1500		V

<b>ELECTRICAL CHARACTERISTICS</b> ( $T_A = 25\text{ }^\circ\text{C}$ unless otherwise noted)						
PARAMETER	SYMBOL	TEST CONDITIONS		TYP.	MAX.	UNIT
Instantaneous forward voltage per diode	$V_F^{(1)}$	$I_F = 5.0\text{ A}$	$T_J = 25\text{ }^\circ\text{C}$	0.482	-	V
				0.520	-	
				0.614	0.72	
		$I_F = 5.0\text{ A}$	$T_J = 125\text{ }^\circ\text{C}$	0.387	-	
				0.443	-	
				0.547	0.62	
Reverse current per diode	$I_R^{(2)}$	rated $V_R$	$T_J = 25\text{ }^\circ\text{C}$	50	350	$\mu\text{A}$
			$T_J = 125\text{ }^\circ\text{C}$	23	45	mA
Typical junction capacitance per diode	$C_J$	4.0 V, 1 MHz	$T_J = 25\text{ }^\circ\text{C}$	540	-	pF

**Notes**

- (1) Pulse test: 300  $\mu\text{s}$  pulse width, 1 % duty cycle  
 (2) Pulse test: Pulse width  $\leq 40\text{ ms}$

<b>THERMAL CHARACTERISTICS</b> ( $T_A = 25\text{ }^\circ\text{C}$ unless otherwise noted)					
PARAMETER	SYMBOL	M3060C	MF3060C	MI3060C	UNIT
Thermal resistance per diode	$R_{\theta JC}$	2.0	5.5	2.0	$^\circ\text{C/W}$

<b>ORDERING INFORMATION</b> (Example)					
PACKAGE	PREFERRED P/N	UNIT WEIGHT (g)	PACKAGE CODE	BASE QUANTITY	DELIVERY MODE
TO-220AB	M3060C-E3/4W	1.85	4W	50/tube	Tube
ITO-220AB	MF3060C-E3/4W	1.75	4W	50/tube	Tube
TO-262AA	MI3060C-E3/4W	1.46	4W	50/tube	Tube

**RATINGS AND CHARACTERISTICS CURVES**

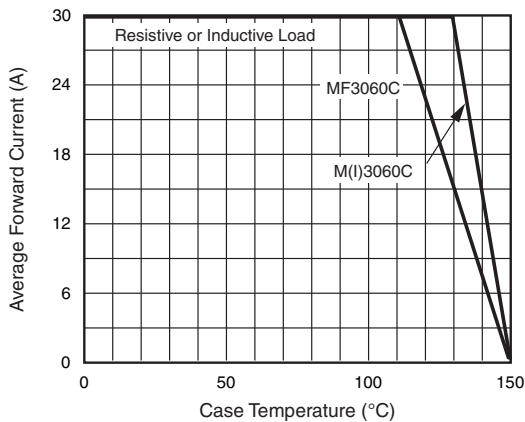
 ( $T_A = 25\text{ }^\circ\text{C}$  unless otherwise noted)


Fig. 1 - Forward Current Derating Curve

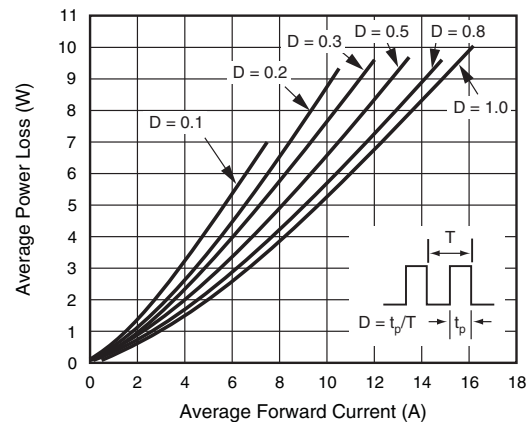


Fig. 2 - Forward Power Loss Characteristics Per Diode

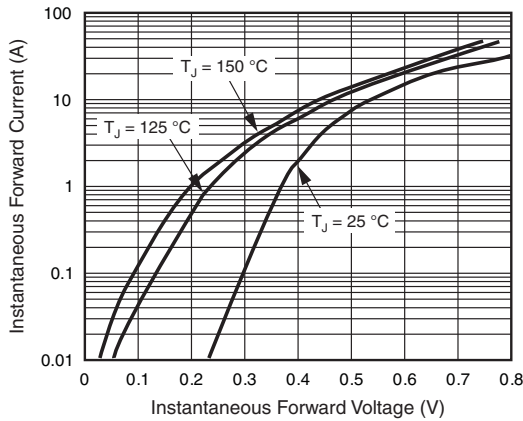


Fig. 3 - Typical Instantaneous Forward Characteristics Per Diode

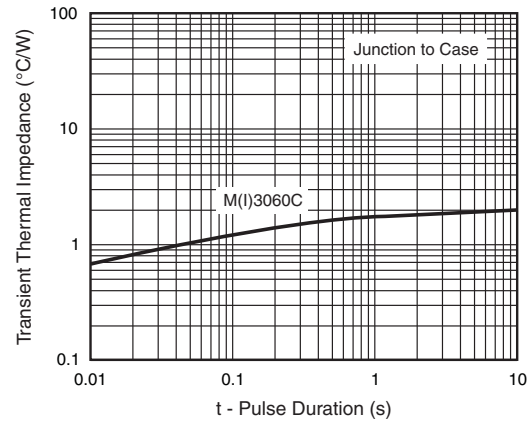


Fig. 6 - Typical Transient Thermal Impedance Per Diode

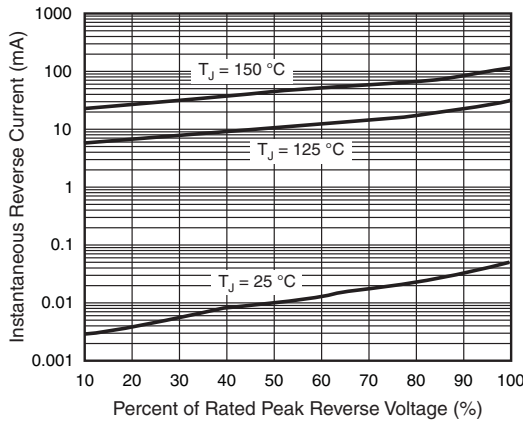


Fig. 4 - Typical Reverse Characteristics Per Diode

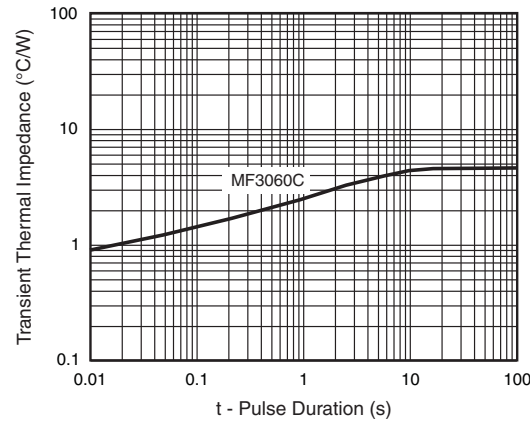


Fig. 7 - Typical Transient Thermal Impedance Per Diode

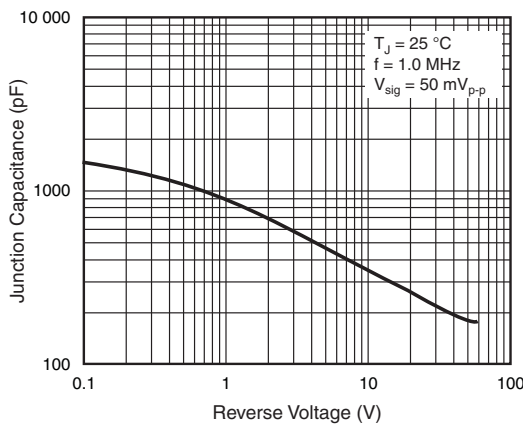
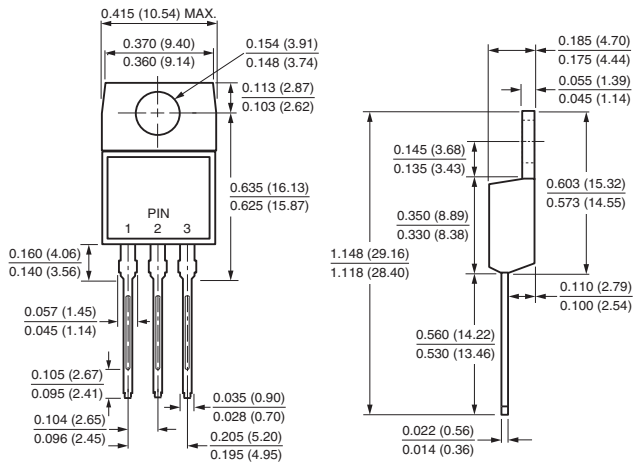


Fig. 5 - Typical Junction Capacitance Per Diode

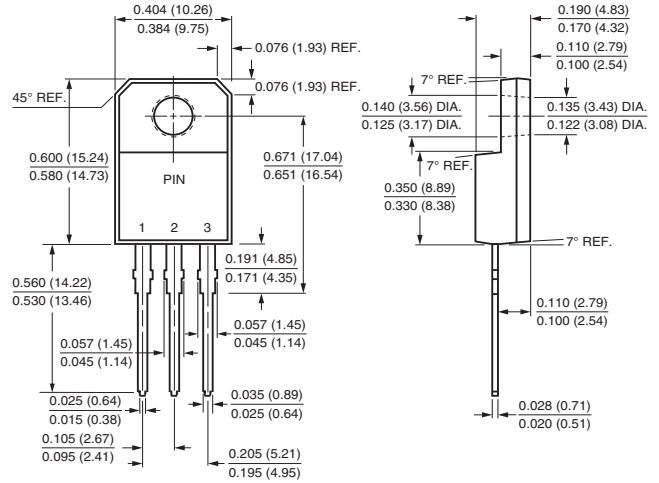


### PACKAGE OUTLINE DIMENSIONS in inches (millimeters)

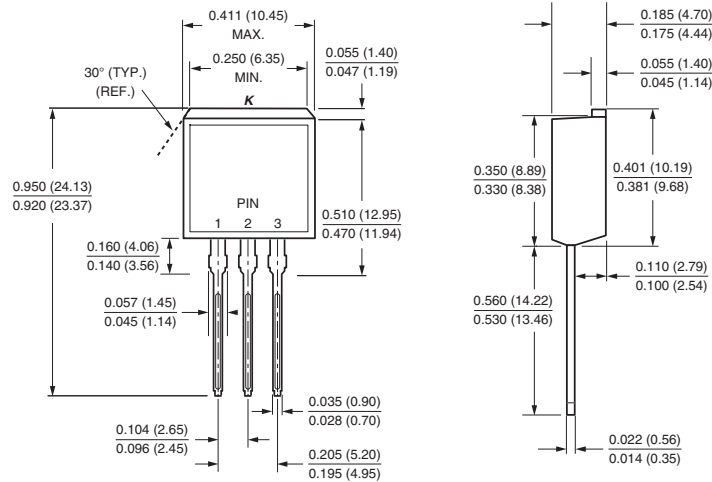
#### TO-220AB



#### ITO-220AB



#### TO-262AA





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