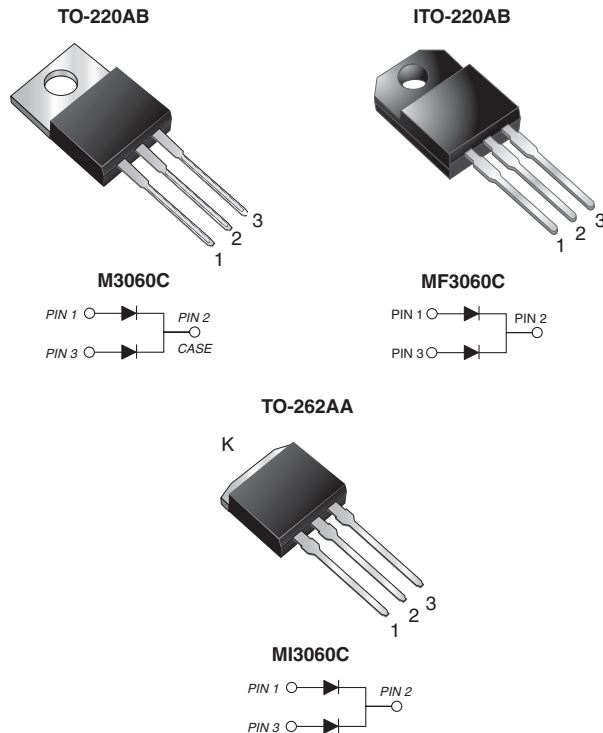


Dual Common Cathode Schottky Rectifier



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


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 $t_p = 2$ μ s, 1 kHz	I_{RRM}		0.5		A
Voltage rate of change (rated V_R)	dV/dt		10 000		V/ μ 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

ELECTRICAL CHARACTERISTICS ($T_A = 25\text{ }^\circ\text{C}$ 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	
				$I_F = 7.5\text{ A}$	0.520		-
				$I_F = 15\text{ A}$	0.614		0.72
		$T_J = 125\text{ }^\circ\text{C}$	$I_F = 5.0\text{ A}$	0.387	-		
			$I_F = 7.5\text{ A}$	0.443	-		
			$I_F = 15\text{ A}$	0.547	0.62		
Reverse current per diode	$I_R^{(2)}$	rated V_R	$T_J = 25\text{ }^\circ\text{C}$	50	350	μA	
			$T_J = 125\text{ }^\circ\text{C}$	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 μs pulse width, 1 % duty cycle
 (2) Pulse test: Pulse width $\leq 40\text{ ms}$

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

ORDERING INFORMATION (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)

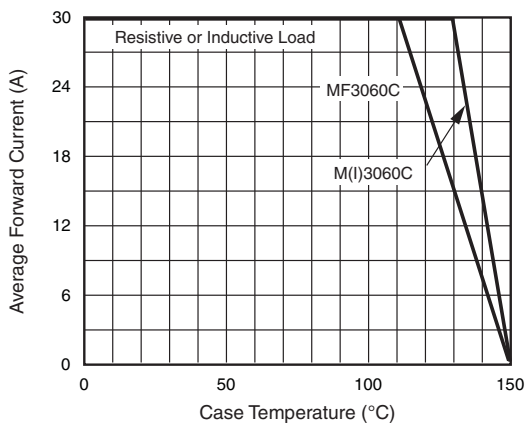


Fig. 1 - Forward Current Derating Curve

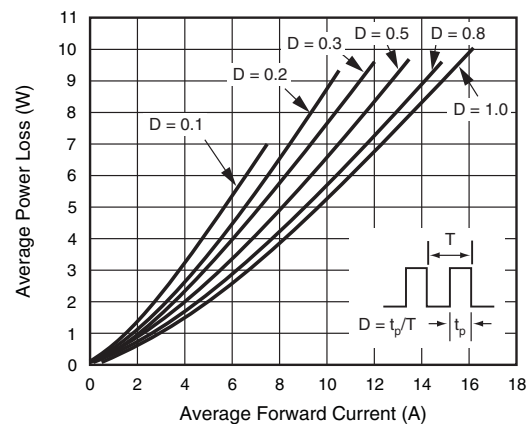


Fig. 2 - Forward Power Loss Characteristics Per Diode

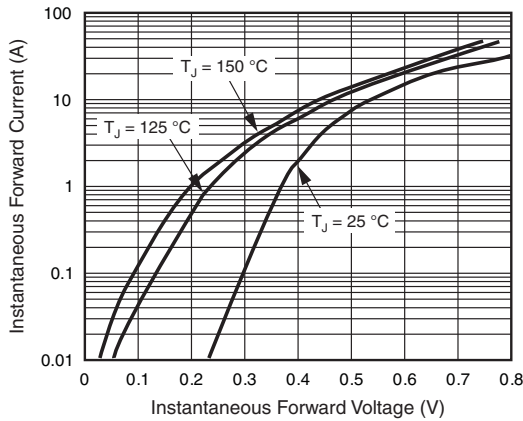


Fig. 3 - Typical Instantaneous Forward Characteristics Per Diode

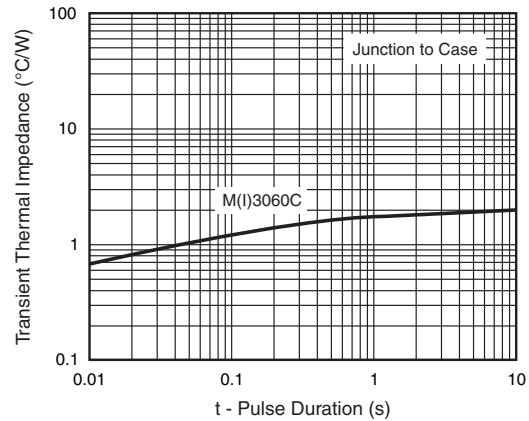


Fig. 6 - Typical Transient Thermal Impedance Per Diode

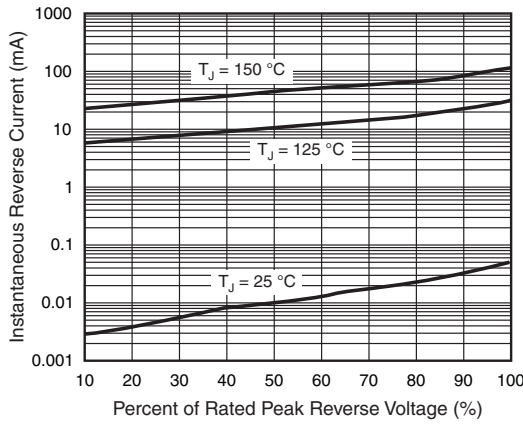


Fig. 4 - Typical Reverse Characteristics Per Diode

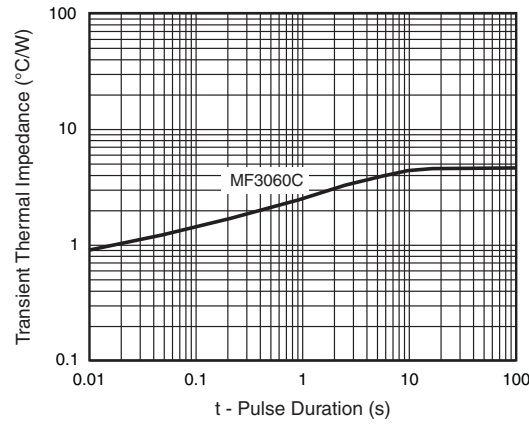


Fig. 7 - Typical Transient Thermal Impedance Per Diode

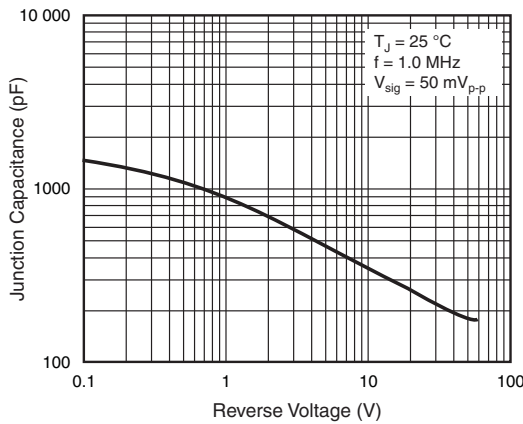


Fig. 5 - Typical Junction Capacitance Per Diode



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