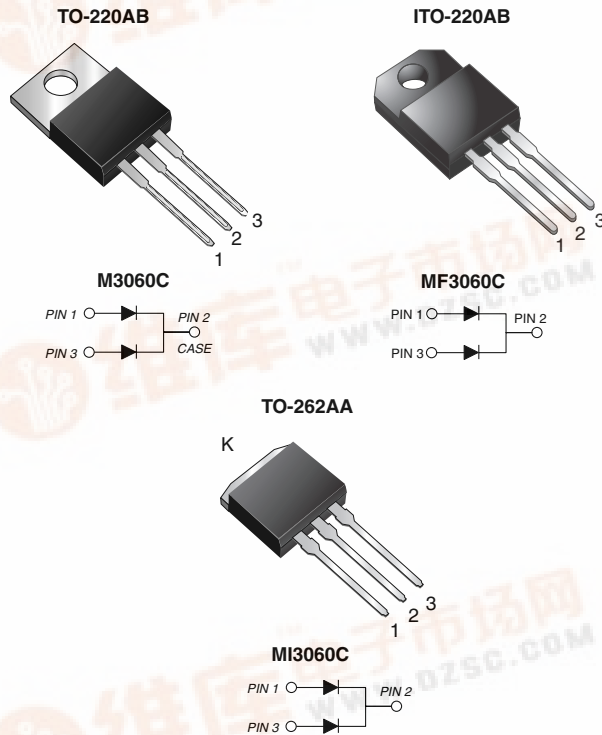


Dual Common-Cathode Schottky Rectifier



FEATURES

- Guardring for overvoltage protection
- Lower power losses, high efficiency
- Low forward voltage drop
- High forward surge capability
- High frequency operation
- Solder dip 260 °C, 40 s (for TO-220AB, ITO-220AB and TO-262AA package)
- Component in accordance to RoHS 2002/95/EC and WEEE 2002/96/EC



TYPICAL APPLICATIONS

For use in low voltage, high frequency rectifier of switching mode power supplies, freewheeling diodes, dc-to-dc converters or polarity protection application.

MECHANICAL DATA

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

Epoxy meets UL 94V-0 flammability rating

Terminals: Matte tin plated leads, solderable per J-STD-002 and JESD22-B102

E3 suffix for consumer grade, meets JESD 201 class 1A whisker test

Polarity: As marked

Mounting Torque: 10 in-lbs maximum

PRIMARY CHARACTERISTICS

$I_{F(AV)}$	15 A x 2
V_{RRM}	60 V
I_{FSM}	160 A
V_F at $I_F = 15$ A	0.547 V
T_J max.	150 °C

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 total device per diode	$I_{F(AV)}$		30 15		A
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 °C unless otherwise noted)						
PARAMETER	TEST CONDITIONS		SYMBOL	TYP.	MAX.	UNIT
Instantaneous forward voltage per diode ⁽¹⁾	I _F = 5.0 A I _F = 7.5 A I _F = 15 A	T _J = 25 °C	V _F	0.482 0.520 0.614	- - 0.72	V
	I _F = 5.0 A I _F = 7.5 A I _F = 15 A	T _J = 125 °C		0.387 0.443 0.547	- - 0.62	
Reverse current per diode ⁽²⁾	rated V _R	T _J = 25 °C T _J = 125 °C	I _R	50 23	350 45	μA mA
Typical junction capacitance per diode	4.0 V, 1 MHz	T _J = 25 °C	C _J	540	-	pF

Notes:

(1) Pulse test: 300 μs pulse width, 1 % duty cycle

(2) Pulse test: Pulse width $\leq 40\text{ ms}$

THERMAL CHARACTERISTICS ($T_C = 25\text{ }^{\circ}\text{C}$ 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)

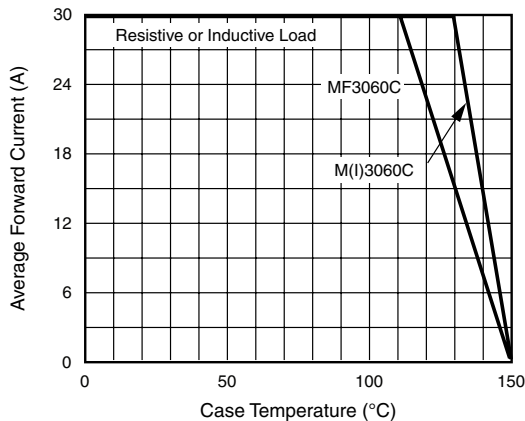


Figure 1. Forward Current Derating Curve

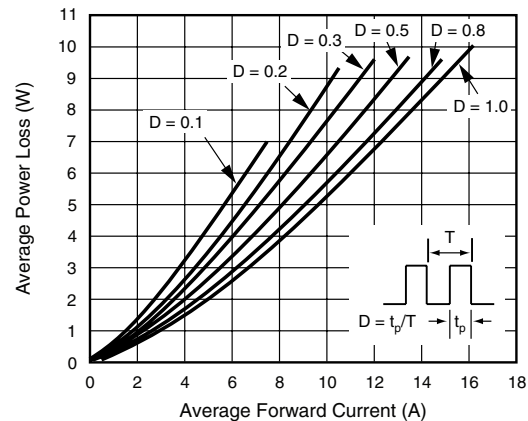


Figure 2. Forward Power Loss Characteristics Per Diode

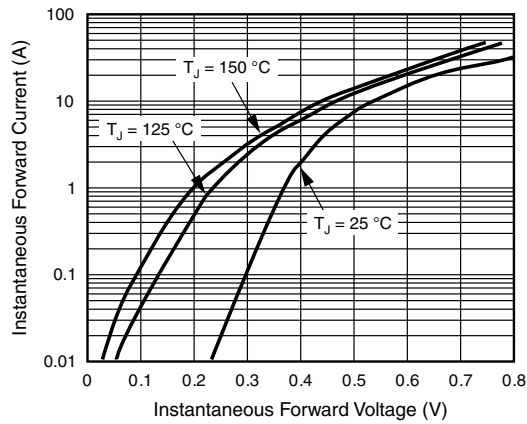


Figure 3. Typical Instantaneous Forward Characteristics Per Diode

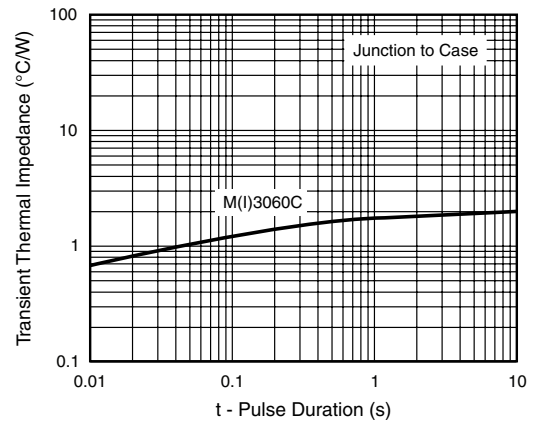


Figure 6. Typical Transient Thermal Impedance Per Diode

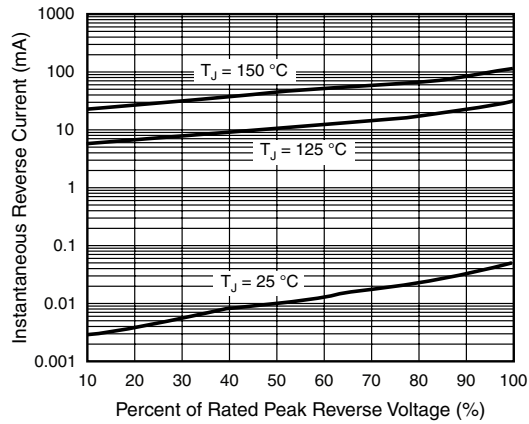


Figure 4. Typical Reverse Characteristics Per Diode

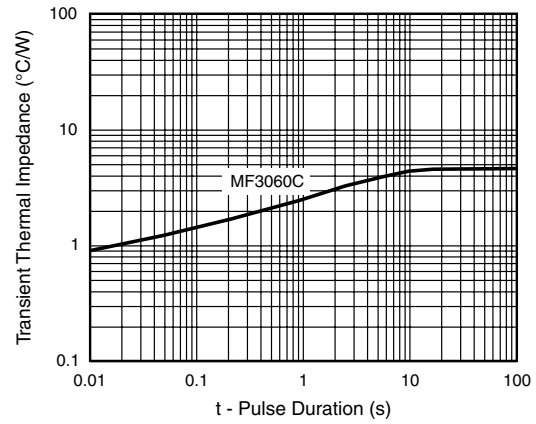


Figure 7. Typical Transient Thermal Impedance Per Diode

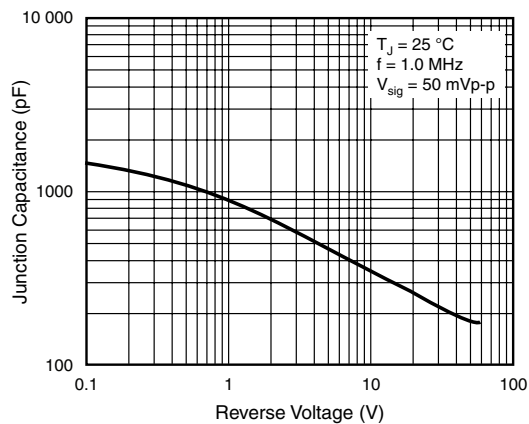


Figure 5. Typical Junction Capacitance Per Diode

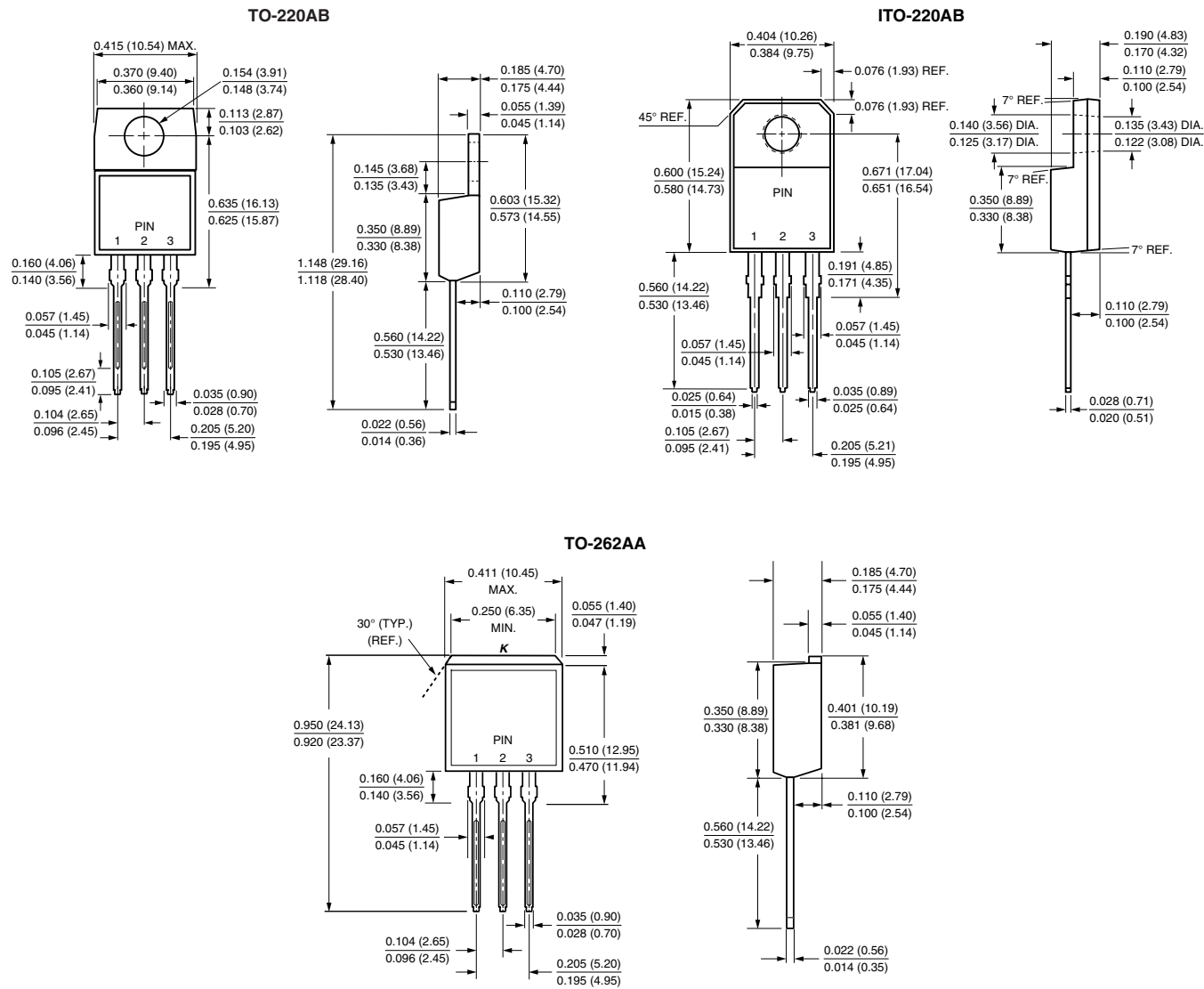
M3060C, MF3060C & MI3060C

New Product

Vishay General Semiconductor



PACKAGE OUTLINE DIMENSIONS in inches (millimeters)



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