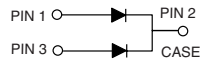




Dual Common-Cathode Schottky Rectifier



TO-247AD (TO-3P)



MAJOR RATINGS AND CHARACTERISTICS

$I_{F(AV)}$	2 x 30 A
V_{RRM}	35 V, 45 V, 60 V
I_{FSM}	350 A
V_F at $I_F = 30$ A	0.50 V, 0.56 V
T_J max.	150 °C

FEATURES

- Guardring for overvoltage protection
- Low power losses, high efficiency
- Low forward voltage drop
- High forward surge capability
- High frequency operation
- Solder Dip 260 °C, 40 seconds
- 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, free-wheeling diodes, dc-to-dc converters or polarity protection application.

MECHANICAL DATA

Case: TO-247AD (TO-3P)

Epoxy meets UL 94V-0 flammability rating

Terminals: Matte tin plated leads, solderable per J-STD-002B and JESD22-B102D

E3 suffix for commercial grade

Polarity: As marked

Mounting Torque: 10 in-lbs maximum

MAXIMUM RATINGS ($T_A = 25$ °C unless otherwise noted)

PARAMETER	SYMBOL	M6035P	M6045P	M6060P	UNIT
Maximum repetitive peak reverse voltage	V_{RRM}	35	45	60	V
Maximum average forward rectified current (see Fig. 1)	$I_{F(AV)}$	60 30			A
Peak forward surge current 8.3 ms single half sine-wave superimposed on rated load per diode	I_{FSM}	350			A
Peak repetitive reverse current at $t_p = 2$ μ s, 1 kHz per diode	I_{RRM}	2.0			A
Voltage rate of change (rated V_R)	dv/dt	10000			V/ μ s
Operating junction and storage temperature range	T_J, T_{STG}	- 65 to + 150			°C



ELECTRICAL CHARACTERISTICS (T _A = 25 °C unless otherwise noted)							
PARAMETER	TEST CONDITIONS	SYMBOL	M6035P	M6045P	M6060P		UNIT
			TYP.	MAX.	TYP.	MAX.	
Instantaneous forward voltage per diode ⁽¹⁾	at I _F = 10 A I _F = 20 A T _J = 25 °C I _F = 30 A	V _F	0.42	-	0.43	-	V
	at I _F = 10 A I _F = 20 A T _J = 125 °C I _F = 30 A		0.49	-	0.52	-	
			0.54	0.60	0.59	0.64	
			0.31	-	0.33	-	
			0.42	-	0.47	-	
			0.50	0.55	0.56	0.60	
Reverse current per diode ⁽¹⁾	at V _R T _J = 25 °C T _J = 125 °C	I _R	135	600	240	600	μA
			110	160	140	160	mA
Typical junction capacitance	at 4.0 V, 1 MHz	C _J	1150	-	1090	-	pF

Note:

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

THERMAL CHARACTERISTICS (T _A = 25 °C unless otherwise noted)					
PARAMETER	SYMBOL	M6035P	M6045P	M6060P	UNIT
Typical thermal resistance per diode	R _{θJC}	2.0			°C/W

ORDERING INFORMATION (Example)				
PREFERRED P/N	UNIT WEIGHT (g)	PREFERRED PACKAGE CODE	BASE QUANTITY	DELIVERY MODE
M6045P-E3/45	6.14	45	30/Tube	Tube
M6060P-E3/45	6.14	45	30/Tube	Tube

RATINGS AND CHARACTERISTICS CURVES

(T_A = 25 °C unless otherwise noted)

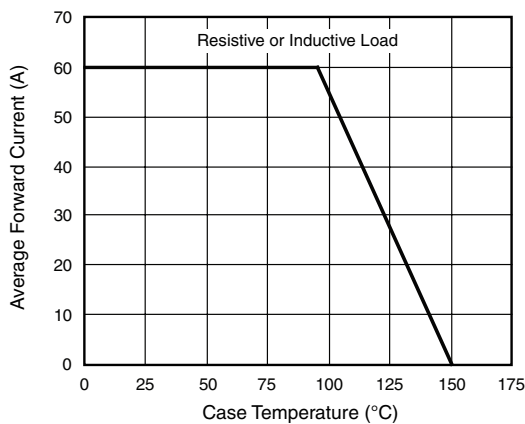


Figure 1. Forward Current Derating Curve

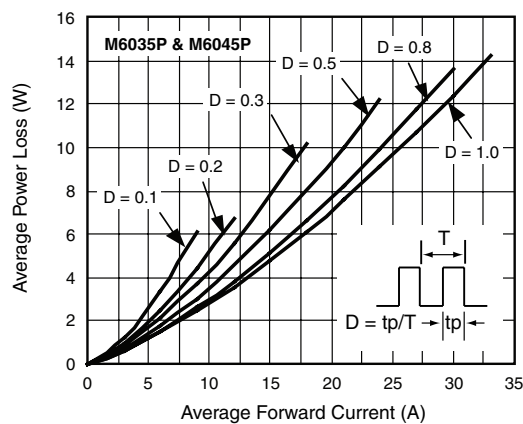


Figure 2. Forward Power Loss Characteristics Per Diode

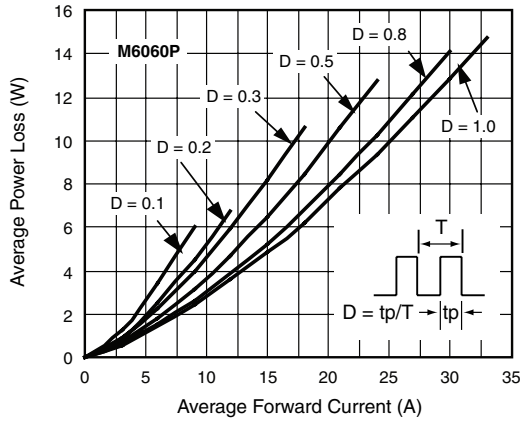


Figure 3. Forward Power Loss Characteristics Per Diode

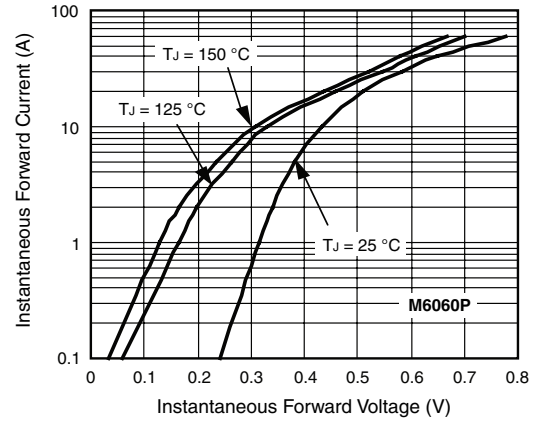


Figure 6. Typical Instantaneous Forward Characteristics Per Diode

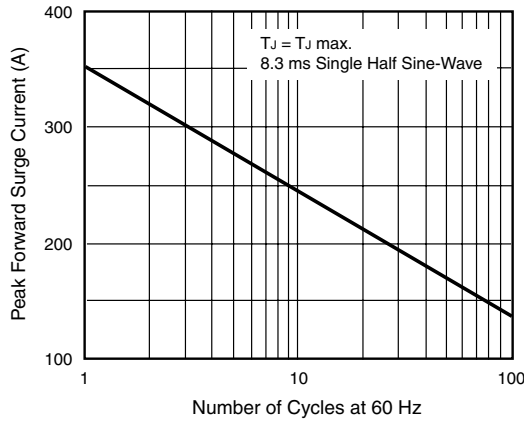


Figure 4. Maximum Non-Repetitive Peak Forward Surge Current Per Diode

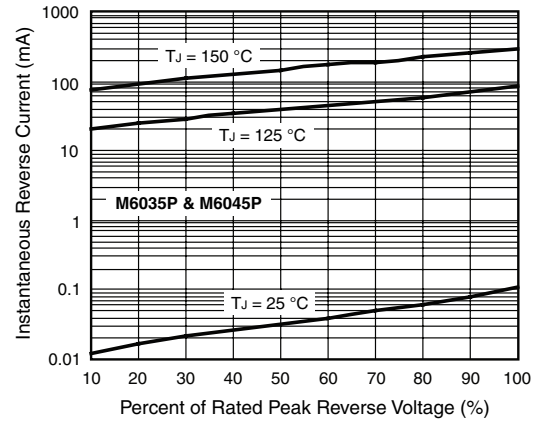


Figure 7. Typical Reverse Characteristics Per Diode

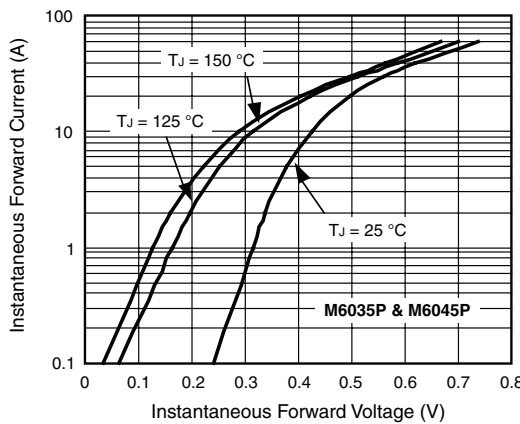


Figure 5. Typical Instantaneous Forward Characteristics Per Diode

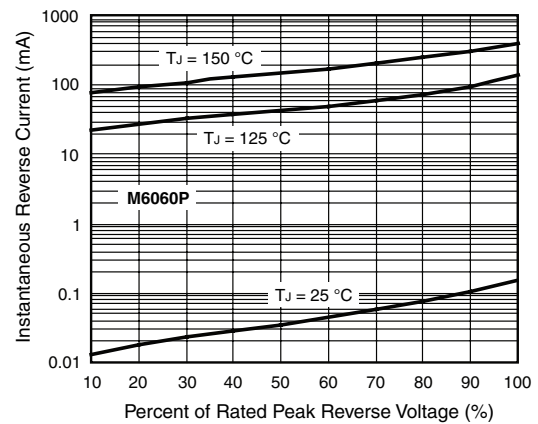


Figure 8. Typical Reverse Characteristics Per Diode

M6035P, M6045P & M6060P

Vishay General Semiconductor

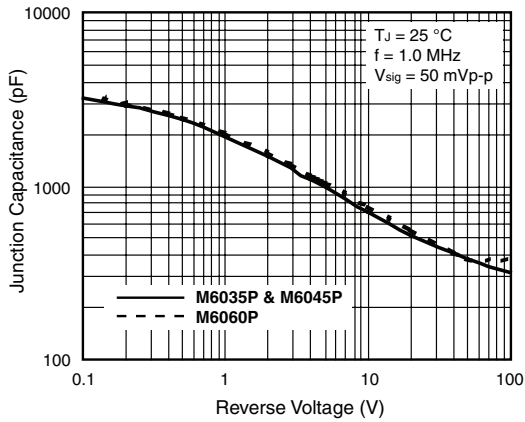


Figure 9. Typical Junction Capacitance Per Diode

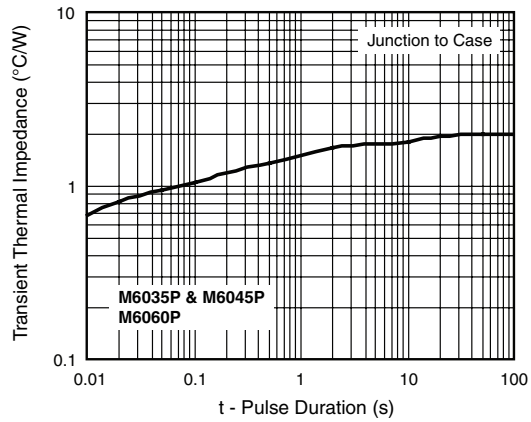
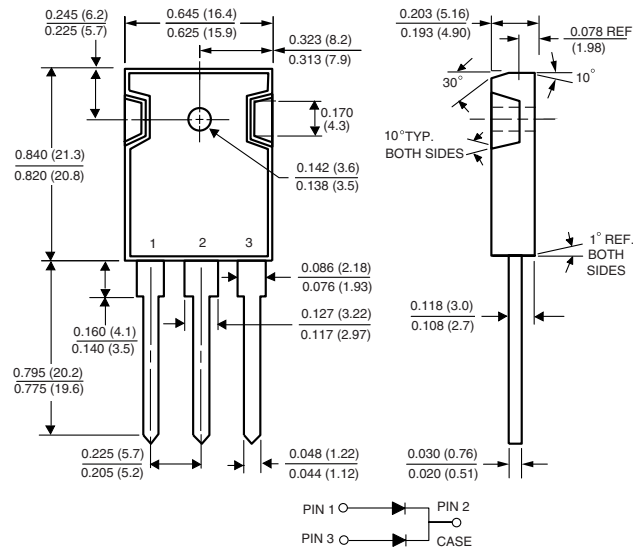


Figure 10. Typical Transient Thermal Impedance Per Diode

PACKAGE OUTLINE DIMENSIONS in inches (millimeters)

TO-247AD (TO-3P)





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