

Pb Free Plating Product

GF2045MG thru GF20100MG



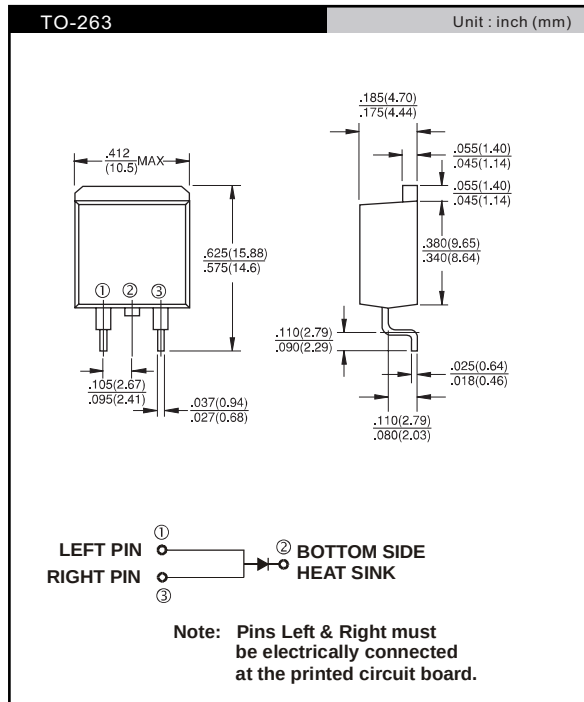
20.0 Ampere Surface Mount PhotoVoltaic Bypass Schottky Barrier Rectifier

Features

- ✧ Plastic material used carries Underwriters Laboratory Classifications 94V-0
- ✧ Metal silicon junction, majority carrier conduction
- ✧ Low power loss, high efficiency
- ✧ High current capability, low forward voltage drop
- ✧ High surge capability
- ✧ For use in low voltage, high frequency inverters, free wheeling, and polarity protection applications
- ✧ Guardring for overvoltage protection
- ✧ High temperature soldering guaranteed: 260°C/10 seconds, 0.25" (6.35mm) from case

Mechanical Data

- ✧ Cases: JEDEC TO-263/D2PAK molded plastic body
- ✧ Terminals: Pure tin plated, lead free. solderable per MIL-STD-750, Method 2026
- ✧ Polarity: As marked
- ✧ Mounting position: Any
- ✧ Mounting torque: 5 in. - lbs. max
- ✧ Weight: 1.8 gram approximately



Maximum Ratings and Electrical Characteristics

Rating at 25 °C ambient temperature unless otherwise specified.

Single phase, half wave, 60 Hz, resistive or inductive load.

For capacitive load, derate current by 20%

Type Number	Symbol	GF2045MG	GF2060MG	GF20100MG	Unit
Maximum Repetitive Peak Reverse Voltage	V _{RRM}	45	60	100	V
Maximum RMS Voltage	V _{RMS}	31	42	70	V
Maximum DC Blocking Voltage	V _{DC}	45	60	100	V
Maximum Average Forward Rectified Current at Tc=125℃	I _{F(AV)}	20			A
Peak Repetitive Forward Current (Rated VR, Square Wave, 20KHz) at Tc=125℃	I _{FRM}	40			A
Peak Forward Surge Current, 8.3 ms Single Half Sine-wave Superimposed on Rated Load (JEDEC method)	I _{FSM}	150			A
Peak Repetitive Reverse Surge Current (Note 1)	I _{RRM}	1	0.5		A
Maximum Instantaneous Forward Voltage (Note 2) I _F =20A, T _A =25℃ I _F =20A, T _A =125℃	V _F	0.75 0.65	0.82 0.72	0.95 0.87	V
Maximum Reverse Current @ Rated VR T _A =25℃ T _A =125℃	I _R	0.2		0.1	mA
		15	10	5	
Voltage Rate of Change (Rated V _R)	dV/dt	10000			V/us
Typical Junction Capacitance	C _j	560		420	pF
Typical Thermal Resistance	R _{θJC}	3			℃
Operating Temperature Range	T _J	- 65 to + 150			℃/W
Storage Temperature Range	T _{STG}	- 65 to + 150			℃

Note 1: 2.0uS Pulse Width, $f=1.0\text{KHz}$

Note 2: Pulse Test : 300uS Pulse Width, 1% Duty Cycle

RATINGS AND CHARACTERISTIC CURVES (GF2045MG thru GF20100MG)

FIG. 1 FORWARD CURRENT DERATING CURVE

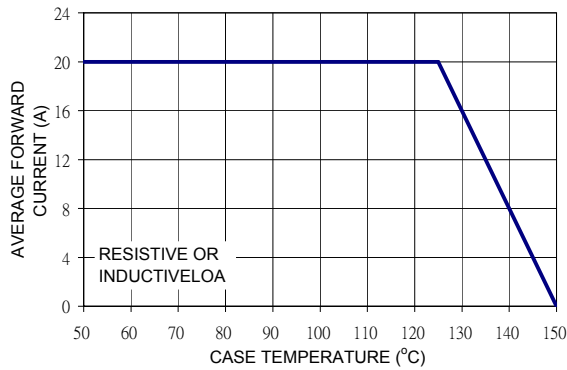


FIG. 2 MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT PER LEG

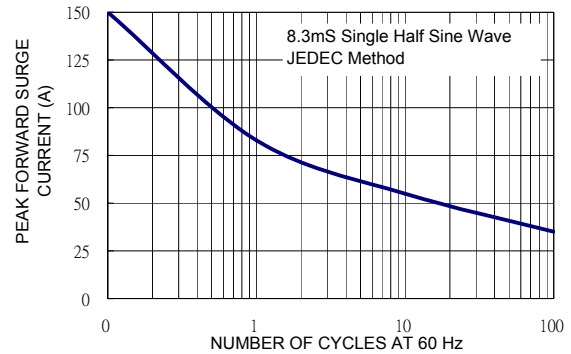


FIG. 3 TYPICAL FORWARD CHARACTERISTICS

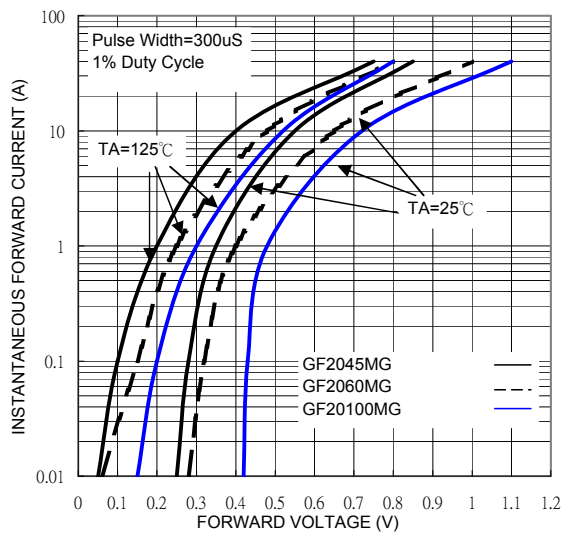


FIG. 4 TYPICAL REVERSE CHARACTERISTICS

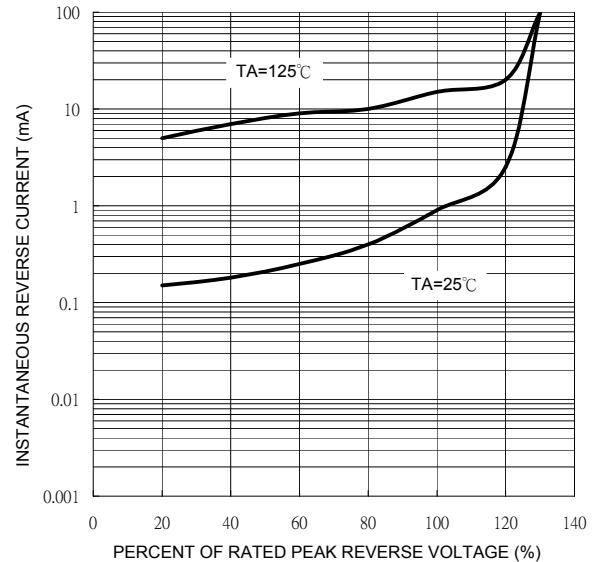


FIG. 5 TYPICAL JUNCTION CAPACITANCE

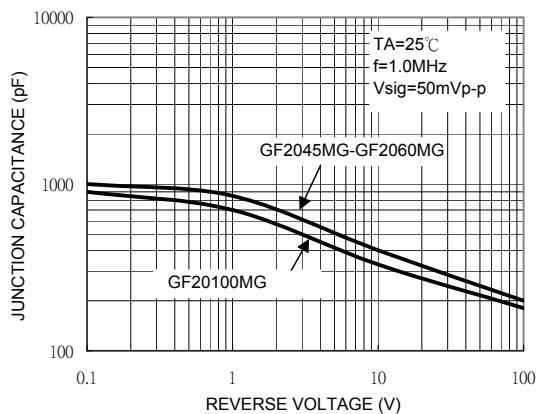


FIG. 6 TYPICAL TRANSIENT THERMAL IMPEDANCE

