

Pb Free Plating Product

GF2045MG thru GF20100MG



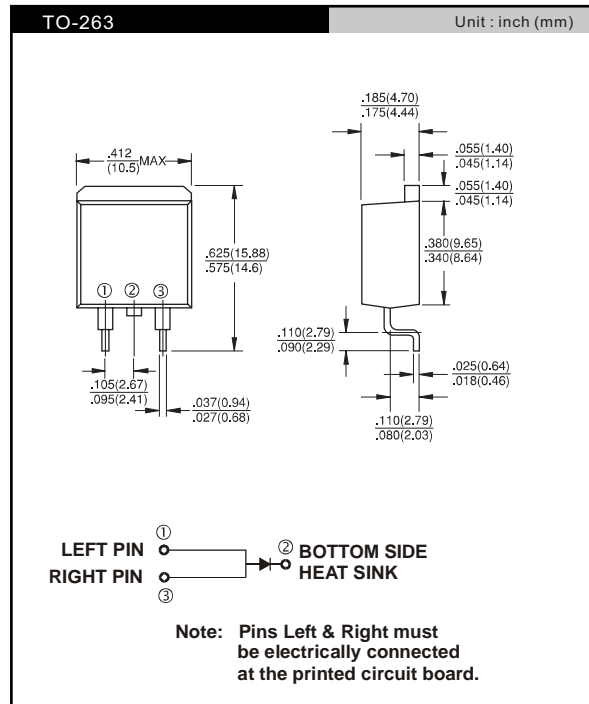
20.0 Ampere Surface Mount PhotoVoltaic Bypass Schottky Barrier Rectifier

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 $T_c=125^\circ C$	$I_{F(AV)}$	20			A
Peak Repetitive Forward Current (Rated VR, Square Wave, 20KHz) at $T_c=125^\circ C$	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) $I_F=20A, T_A=25^\circ C$ $I_F=20A, T_A=125^\circ C$	V_F	0.75 0.65	0.82 0.72	0.95 0.87	V
Maximum Reverse Current @ Rated VR $T_A=25^\circ C$ $T_A=125^\circ C$	I_R	0.2 15		0.1 5	mA
Voltage Rate of Change (Rated V_R)	dV/dt	10000			V/us
Typical Junction Capacitance	C_j	560		420	pF
Typical Thermal Resistance	$R_{\theta JC}$	3			°C
Operating Temperature Range	T_J	- 65 to + 150			°C/W
Storage Temperature Range	T_{STG}	- 65 to + 150			°C

Note 1: 2.0uS Pulse Width, f=1.0KHz

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

RATINGS AND CHARACTERISTIC CURVES (GF2045MG thru GF20100MG)

FIG. 1 FORWARD CURRENT DERATING CURVE

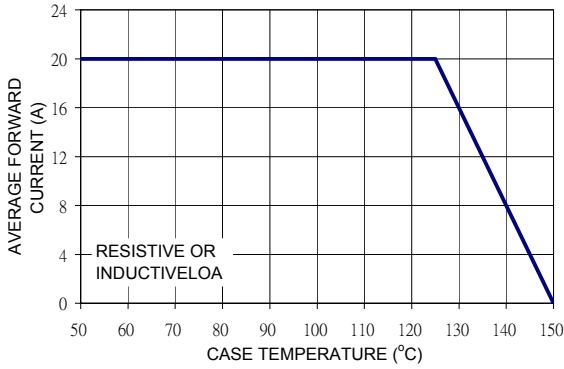


FIG. 2 MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT PER LEG

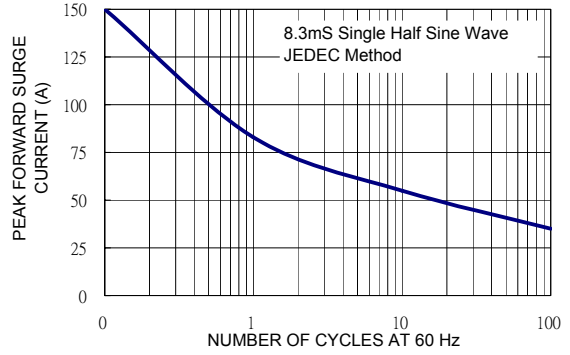


FIG. 3 TYPICAL FORWARD CHARACTERISTICS

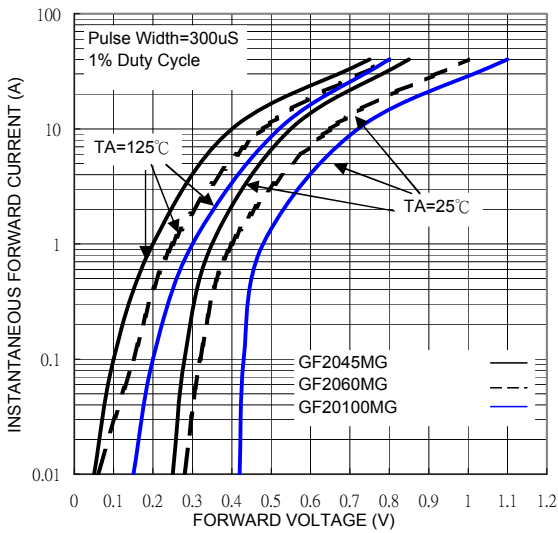


FIG. 4 TYPICAL REVERSE CHARACTERISTICS

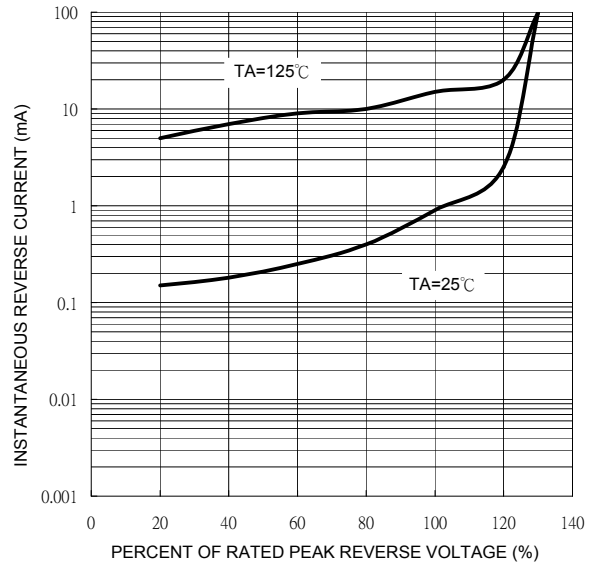


FIG. 5 TYPICAL JUNCTION CAPACITANCE

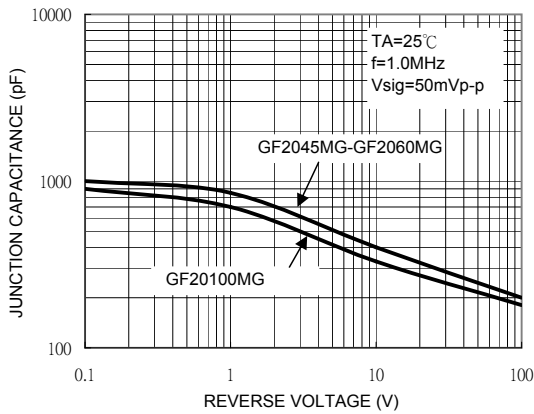


FIG. 6 TYPICAL TRANSIENT THERMAL IMPEDANCE

