

■ **FEATURES**

- High frequency operation
- Low forward voltage drop
- High purity, high temperature epoxy encapsulation for enhanced mechanical strength and moisture resistance
- Guard ring for enhanced ruggedness and long term reliability
- Meets MSL level 1, per J-STD-020, LF maximum peak of 260°C

■ **TYPICAL APPLICATIONS**

Typical applications are in switching power supplies, converters, freewheeling diodes, and reverse battery protection.

■ **MECHANICAL DATA**

- **Package:** TO-263
Molding compound meets UL 94 V-0 flammability rating, RoHS-compliant
- **Terminals:** Tin plated leads, solderable per J-STD-002 and JESD22-B102
- **Polarity:** As marked

■ **MAXIMUM RATINGS** ($T_a=25^\circ\text{C}$ Unless otherwise specified)

PARAMETER	SYMBOL	UNIT	GF2045MG
Device marking code			GF2045MG
Repetitive Peak Reverse Voltage	VRRM	V	45
Average Rectified Output Current @60Hz sine wave, R-load, $T_a=25^\circ\text{C}$	I_o	A	20
Surge(Non-repetitive)Forward Current @60Hz half sine-wave, 1 cycle, $T_a=25^\circ\text{C}$	IFSM	A	325
Current Squared Time @1ms≤t≤8.3ms $T_j=25^\circ\text{C}$	I^2t	A ² s	438
Storage Temperature	T_{stg}	°C	-55 ~+150
Junction Temperature IN DC Forward Mode-Forward Operations, without reverse bias, $t \leq 1$ h (Fig. 1)①	T_j	°C	-55 ~+200

NOTE

① Meets the requirements of IEC 61215 Ed. 2 bypass diode thermal test.

■ **ELECTRICAL CHARACTERISTICS** ($T_a=25^\circ\text{C}$ Unless otherwise specified)

PARAMETER	SYMBOL	UNIT	TEST CONDITIONS	GF2045MG
Maximum instantaneous forward voltage drop per diode	VFM	V	IFM=20.0A	0.55
Maximum DC reverse current at rated DC blocking voltage per diode	IRRM1	mA	VRM=VRRM $T_a=25^\circ\text{C}$	0.5
	IRRM2		VRM=VRRM $T_a=100^\circ\text{C}$	50

■ **THERMAL CHARACTERISTICS** ($T_a=25^\circ\text{C}$ Unless otherwise specified)

PARAMETER	SYMBOL	UNIT	GF2045MG
Thermal Resistance Between junction and case	$R_{\theta J-C}$	°C/W	2.0

■ **PACKAGING INFORMATION**

PREFERRED P/N	UNIT WEIGHT(g)	MINIMUM PACKAGE(pcs)	INNER BOX QUANTITY(pcs)	OUTER CARTON QUANTITY(pcs)	DELIVERY MODE
GF2045MG	Approximate 1.44	50	2000	8000	Tube
GF2045MG	Approximate 1.44	1000	2000	10000	Reel

■ **CHARACTERISTICS (TYPICAL)**

FIG1: I_o -Tc Curve

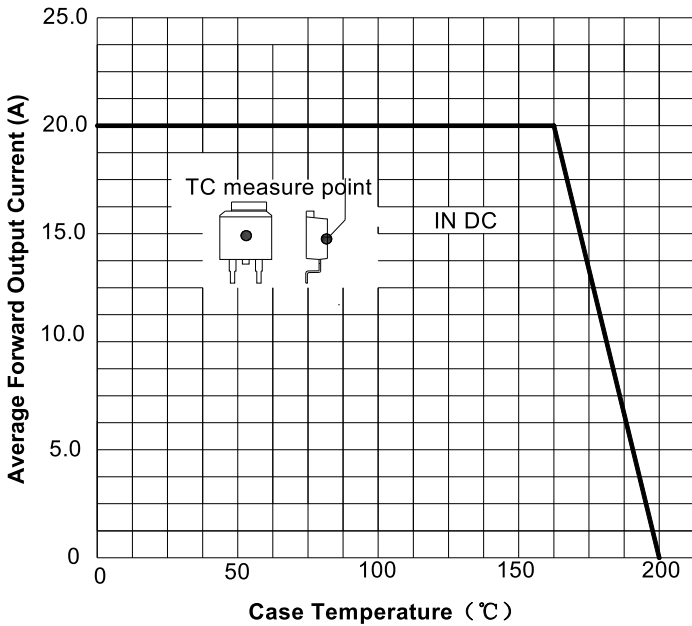


FIG2: Surge Forward Current Capability

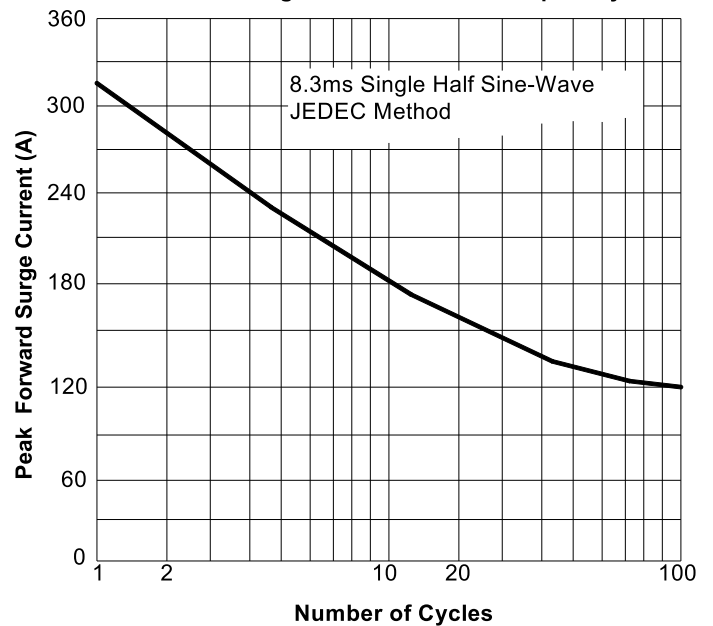


FIG3: Forward Voltage

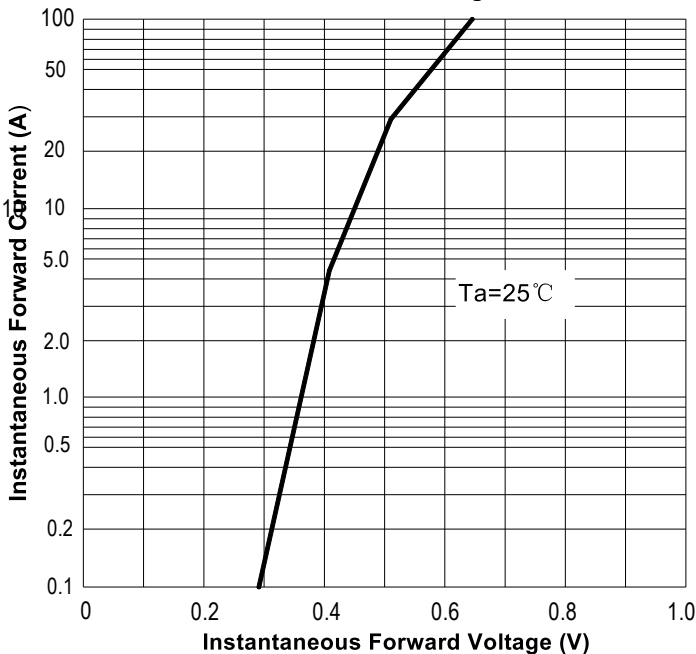
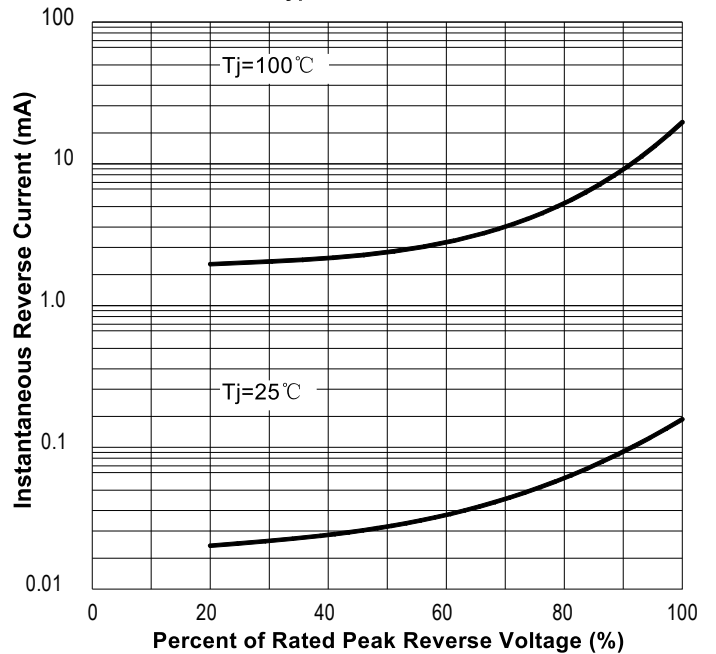
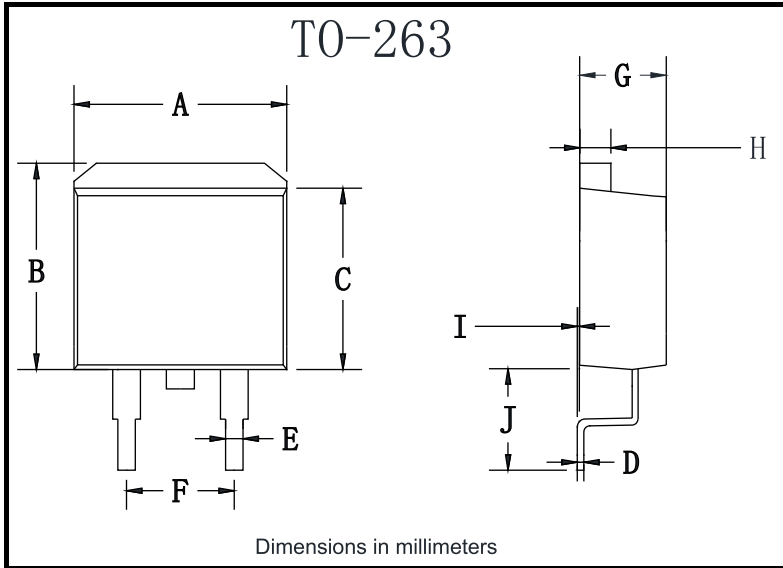


FIG4: Typical Reverse Characteristics



■ **OUTLINE DIMENSIONS**



TO-263		
Dim	Min	Max
A	9.5	11.5
B	9.7	10.5
C	8.4	9.0
D	0.28	0.64
E	0.68	0.94
F	4.55	5.6
G	4.04	5.10
H	1.14	1.4
I	0	0.2
J	4.9	6.05