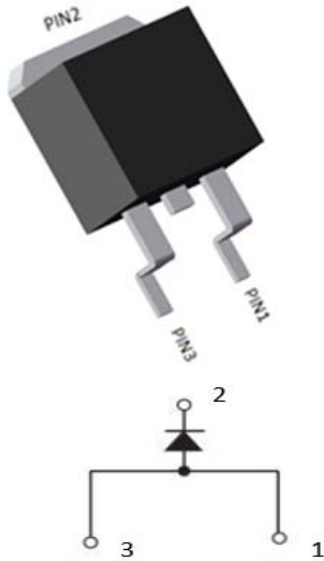


## General Purpose Rectifier Diodes



### Features

- High surge forward current capability
- High purity, high temperature epoxy encapsulation for enhanced mechanical strength and moisture resistance
- Guard ring for enhanced ruggedness and long term reliability
- Solder dip 260 °C max. 10 s, per JESD 22-B106

### Typical Application

- Input rectification

### 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<sub>j</sub>=25°C Unless otherwise specified)

PARAMETER	SYMBOL	UNIT	MGSB20800
Device marking code			MGSB20800
Repetitive Peak Reverse Voltage per diode	VRRM	V	800
Average Rectified Output Current @60Hz half sine-wave, R-load, T <sub>c</sub> (FIG.1) per diode	I <sub>o</sub>	A	20
Surge(Non-repetitive)Forward Current @60Hz half sine-wave, 1 cycle, T <sub>j</sub> =25°C per diode	IFSM	A	300
Current Squared Time @1ms≤t≤8.3ms T <sub>j</sub> =25°C, rating of per diode	I <sup>2</sup> t	A <sup>2</sup> s	373
Storage Temperature	T <sub>stg</sub>	°C	-55 ~ +150
Junction Temperature	T <sub>j</sub>	°C	-55 ~ +150

### ■ Electrical Characteristics (T<sub>a</sub>=25°C Unless otherwise specified)

PARAMETER	SYMBOL	UNIT	TEST CONDITIONS	MGSB20800
Maximum instantaneous forward voltage drop per diode	V <sub>FM</sub>	V	I <sub>FM</sub> =20.0A T <sub>j</sub> =25°C	1.1
Maximum DC reverse current at rated DC blocking voltage per diode	I <sub>RRM</sub>	uA	V <sub>RM</sub> =VRRM T <sub>j</sub> =25°C	5
			V <sub>RM</sub> =VRRM T <sub>j</sub> =125°C	100
Typical junction capacitance per diode	C <sub>j</sub>	pF	Measured at 1MHz and Applied Reverse Voltage of 4.0 V.D.C	75



# MGSB20800

## ■ Thermal Characteristics (T<sub>j</sub>=25°C Unless otherwise specified)

PARAMETER	SYMBOL	UNIT	MGSB20800
Thermal Resistance	R <sub>θJ-C</sub>	°C/W	4.0

## ■ Ordering Information (Example)

PREFERRED P/N	UNIT WEIGHT(g)	MINIIMUM PACKAGE(pcs)	INNER BOX QUANTITY(pcs)	OUTER CARTON QUANTITY(pcs)	DELIVERY MODE
MGSB20800	1.503	800	/	40000	Reel

## ■ Characteristics (Typical)

b

FIG1: I<sub>o</sub> -T<sub>c</sub> Curve

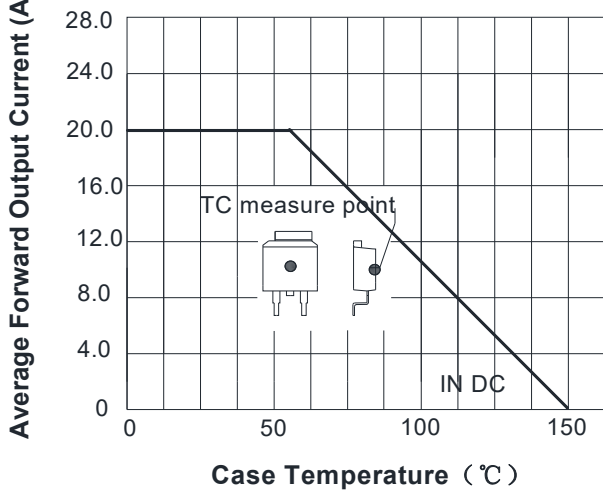


FIG2: Surge Forward Current Capability

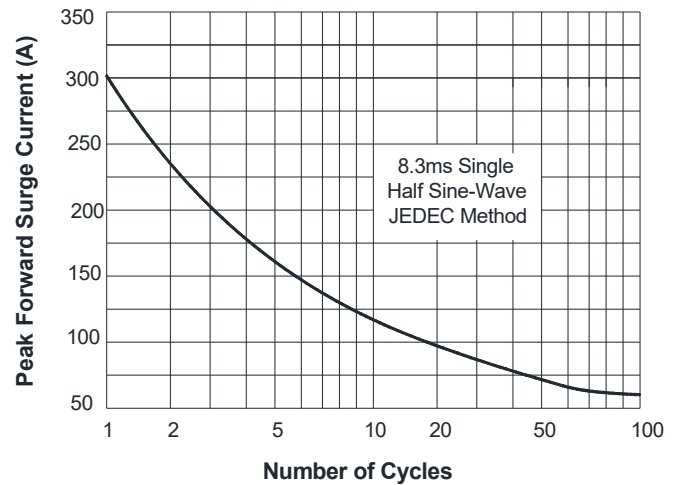


FIG3: Typical Forward Voltage

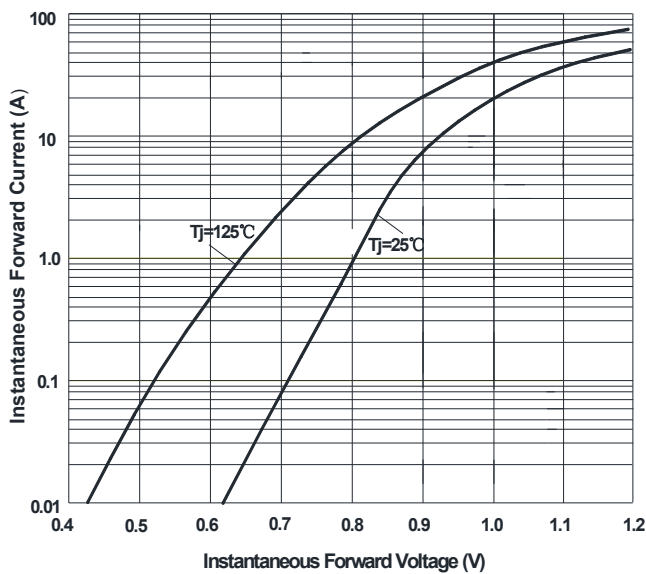
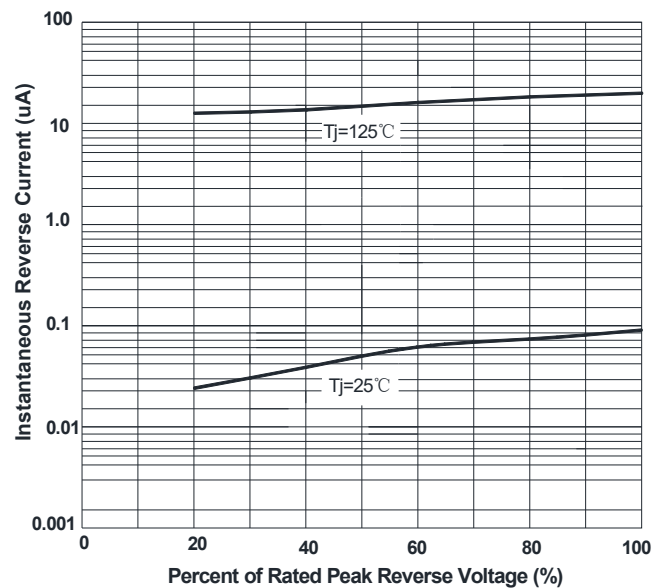
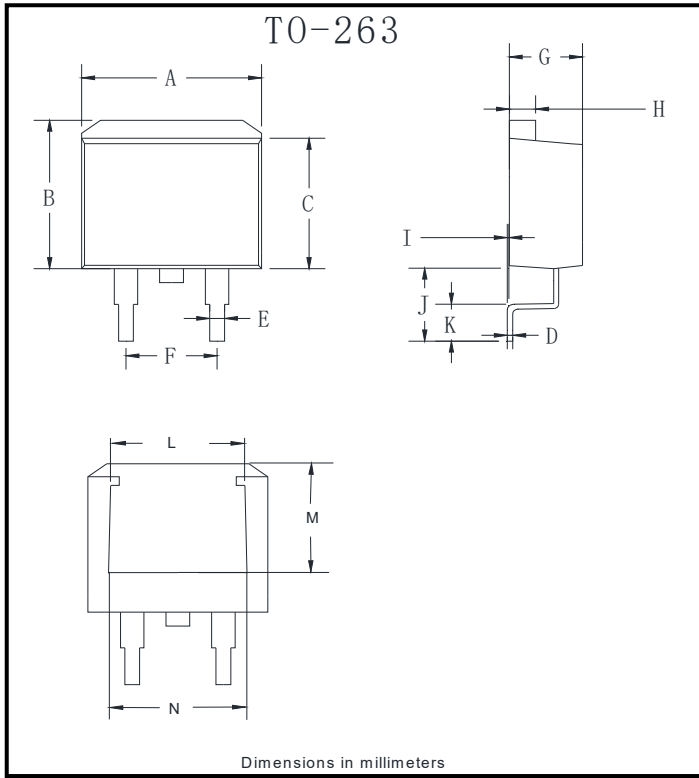


FIG4: Typical Reverse Characteristics

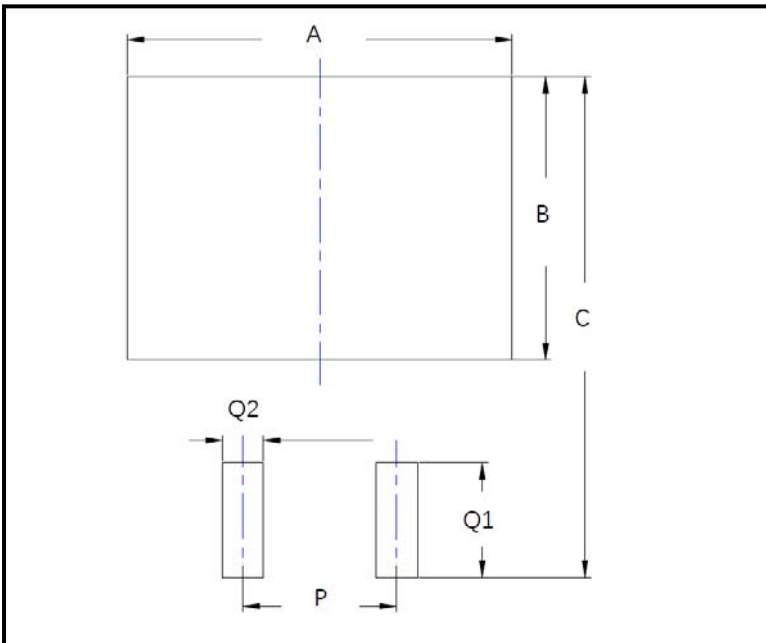


## ■ Outline Dimensions



TO-263		
Dim	Min	Max
A	9.85	10.45
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	4.4	4.8
H	1.14	1.4
I	0	0.2
J	4.9	6.05
K	1.79	2.79
L	7.3	7.9
M	6.2	6.8
N	7.6	8.2

## ■ Suggested Pad Layout



Dim	Millimeters
A	12.7
B	9.4
C	16.6
P	5.08
Q1	3.8
Q2	1.35



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