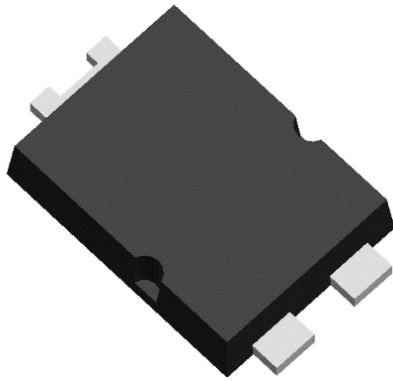


Surface Mount Rectifier Diode



Features

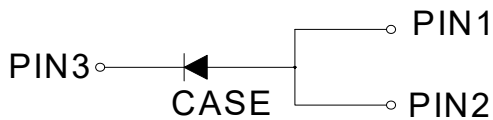
- Low profile package
- Ideal for automated placement
- Glass passivated chip junction
- High forward surge capability
- Meets MSL level 1, per J-STD-020, LF maximum peak of 260 °C

Typical Applications

For use in general purpose rectification of power supplies, inverters, converters, and freewheeling diodes for consumer, and telecommunication.

Mechanical Data

- **Package:** TO-277
Molding compound meets UL 94 V-0 flammability rating, RoHS-compliant, halogen-free
- **Terminals:** Tin plated leads, solderable per J-STD-002 and JESD22-B102
- **Polarity:** Color band denotes the cathode end



■Maximum Ratings (T_j=25°C Unless otherwise specified)

PARAMETER	SYMBOL	UNIT	MGS3M
Device marking code			MGS3M
Maximum Repetitive Peak Reverse Voltage	V _{RRM}	V	1000
Maximum RMS Voltage	V _{RMS}	V	700
Maximum DC blocking Voltage	V _{DC}	V	1000
Average Rectified Output Current @60Hz sine wave, Resistance load, T _c (FIG.1)	I _O	A	3.0
Forward Surge Current (Non-repetitive) @60Hz Half-sine wave, 1 cycle, T _j =25°C	I _{FSM}	A	120
Forward Surge Current (Non-repetitive) @1ms, square wave, 1 cycle, T _j =25°C			240
Current squared time @1ms≤t≤8.3ms T _j =25°C	I ² t	A ² s	59.76
Typical Junction capacitance @4V, 1MHz	C _j	pF	24
Storage Temperature	T _{stg}	°C	-55 ~ +150
Junction Temperature	T _j	°C	-55 ~ +150



MGS3M

■ Electrical Characteristics (T_j=25°C Unless otherwise specified)

PARAMETER	SYMBOL	UNIT	TEST CONDITIONS		Min	Typ	Max
Instantaneous forward voltage drop per diode	V _{FM}	V	T _j =25°C	I _{FM} =3.0A	-	0.93	1.1
			T _j =125°C		-	0.82	1.0
DC reverse current at rated DC blocking voltage per diode	I _{RRM1}	uA	T _j =25°C	V _{RM} =V _{RRM}	-	-	5
	I _{RRM2}		T _j =125°C		-	-	500

■ Thermal Characteristics (T_j=25°C Unless otherwise specified)

PARAMETER	SYMBOL	UNIT	MGS3M
Typical Thermal resistance	R _{θJA} ⁽¹⁾	°C/W	90
	R _{θJC} ⁽¹⁾		10

■ Ordering Information (Example)

PREFERRED P/N	PACKAGE CODE	UNIT WEIGHT(g)	MINIMUM PACKAGE(pcs)	INNER BOX QUANTITY(pcs)	OUTER CARTON QUANTITY(pcs)	DELIVERY MODE
MGS3M	F1	Approximate 0.0821	5000	/	80000	13" reel

■ Characteristics (Typical)

FIG.1: I_o-T_c Curve

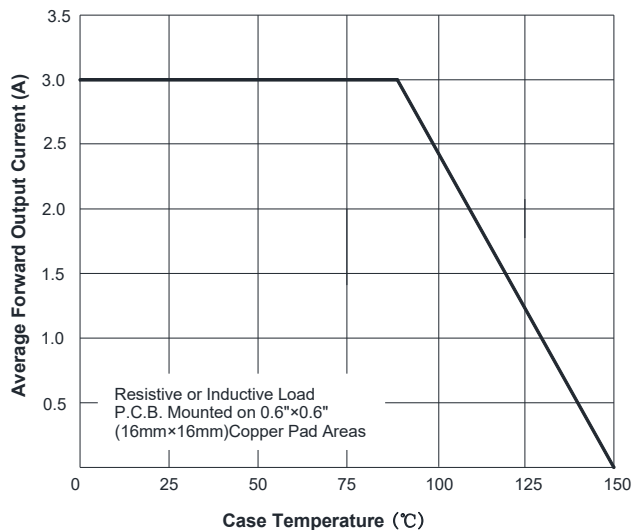


FIG2: Surge Forward Current Capability

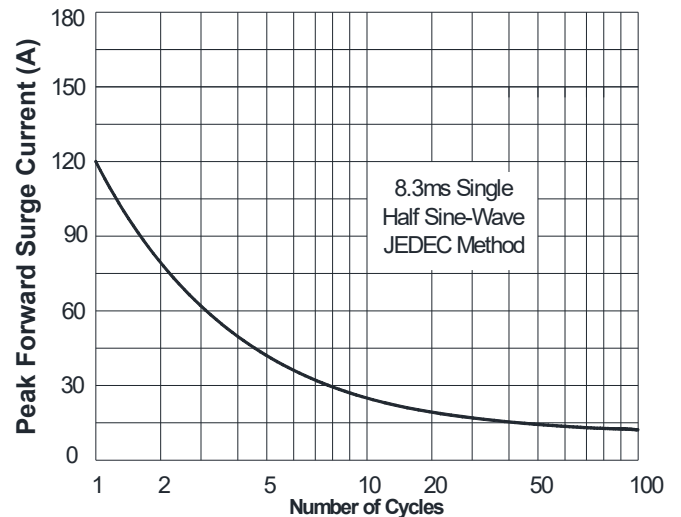


FIG.3: Typ.Forward Voltage

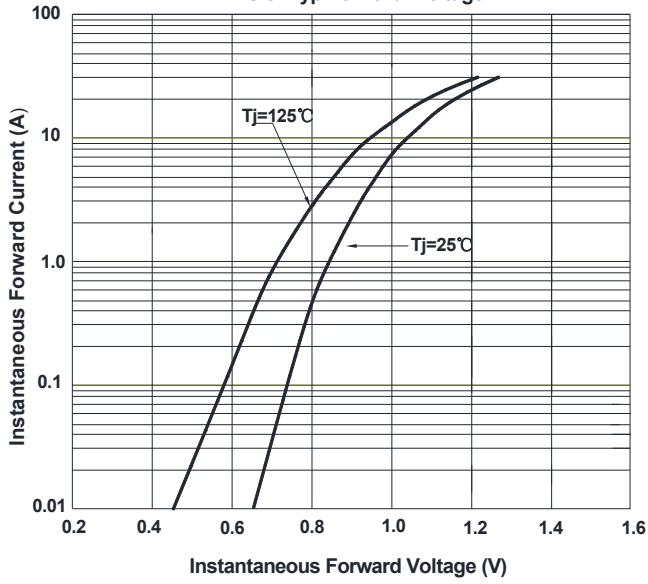
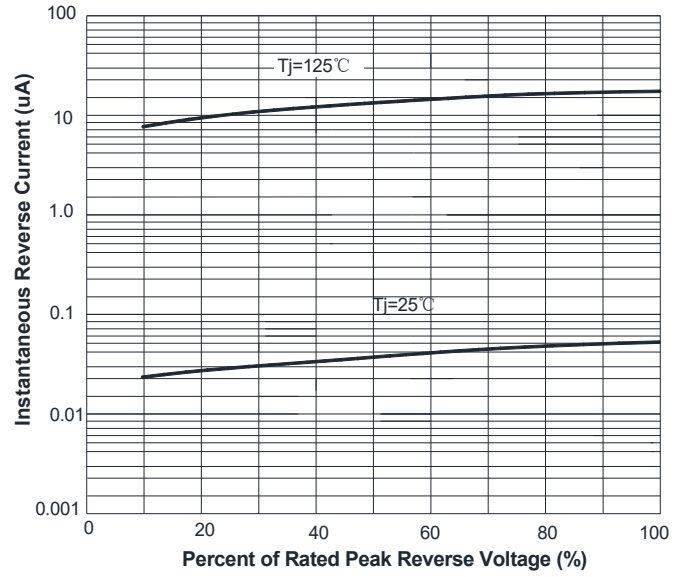
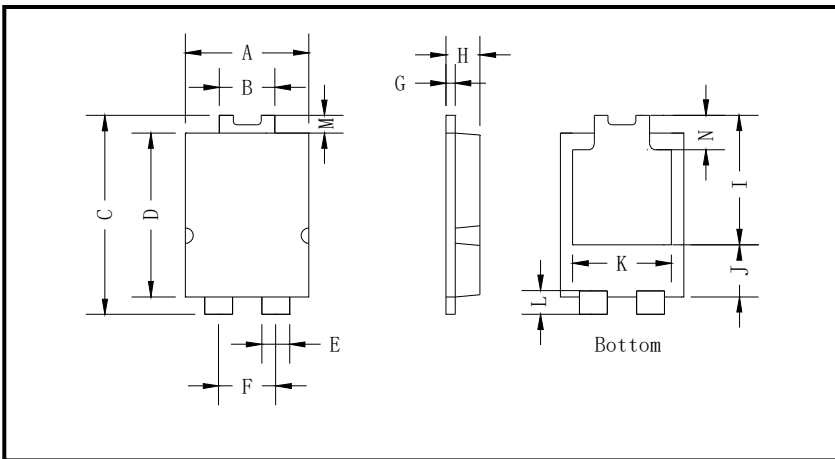


FIG.4: Typical Reverse Characteristics

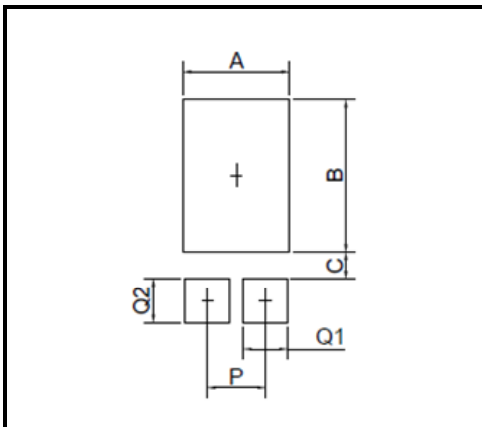


■ Outline Dimensions



DIM	mm	
	MIN.	MAX.
A	3.90	4.10
B	1.70	1.90
C	6.40	6.60
D	5.30	5.50
E	0.80	1.00
F	1.85 ref.	
G	0.35	0.45
H	1.10	1.20
I	4.10	4.50
J	1.50	1.90
K	2.90	3.40
L	0.55	0.75
M	0.50 ref.	
N	1.15 ref.	

■ Suggested pad layout



DIM	MIN.(mm)
A	3.36
B	4.86
C	0.85
P	1.84
Q1	1.40
Q2	1.40



Disclaimer

The information presented in this document is for reference only. Yangzhou Yangjie Electronic Technology Co., Ltd. reserves the right to make changes without notice for the specification of the products displayed herein to improve reliability, function or design or otherwise.

The product listed herein is designed to be used with ordinary electronic equipment or devices, and not designed to be used with equipment or devices which require high level of reliability and the malfunction of which would directly endanger human life (such as medical instruments, transportation equipment, aerospace machinery, nuclear-reactor controllers, fuel controllers and other safety devices), Yangjie or anyone on its behalf, assumes no responsibility or liability for any damages resulting from such improper use of sale.

This publication supersedes & replaces all information previously supplied. For additional information, please visit our website [http:// www.21yangjie.com](http://www.21yangjie.com) , or consult your nearest Yangjie's sales office for further assistance.