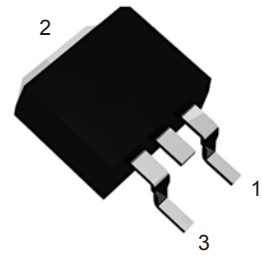


Features

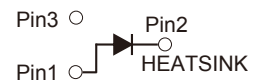
- Low forward voltage drop
- Fast reverse recovery time
- High frequency operation
- High purity, high temperature epoxy encapsulation for enhanced mechanical strength and moisture resistance
- Guard ring for enhanced ruggedness and long term reliability



TO-263 (D²PAK)

Mechanical Data

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



Schematic Diagram

Applications

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

Maximum Ratings (T_J=25°C unless otherwise specified)

Parameter	Symbol	Value	Unit
Repetitive Peak Reverse Voltage	V _{RRM}	400	V
Average Rectified Output Current @ 60Hz Sine Wave, R-Load, T _C (FIG.1)	I _O	10	A
Surge (Non-Repetitive) Forward Current @ 60Hz Half Sine-Wave, 1 Cycle, T _J =25°C	I _{FSM}	120	A
Current Squared Time @ 1ms ≤ t ≤ 8.3ms, T _J =25°C	I ² t	60	A ² s
Typical Junction Capacitance @ 4V, 1MHz	C _J	50	pF
Thermal Resistance	Between Junction and Case	R _{θJ-C}	2 °C/W
	Between Junction and Air	R _{θJ-A}	50 °C/W
Storage Temperature	T _{stg}	-55 to +175	°C
Junction Temperature	T _J	-55 to +175	°C

Electrical Characteristics

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit	
Instantaneous Forward Voltage Drop	V_{FM}	$I_{FM}=10.0A @ T_J=25^{\circ}C$	-	1.15	1.30	V	
		$I_{FM}=10.0A @ T_J=150^{\circ}C$	-	0.9	1.0		
DC Reverse Current at Rated DC Blocking Voltage	I_{RRM1}	$V_{RM}=V_{RRM}, T_J=25^{\circ}C$	-	-	5.0	uA	
	I_{RRM2}	$V_{RM}=V_{RRM}, T_J=150^{\circ}C$	-	40	100		
Reverse Recovery Time	T_{RR}	$I_F=0.5A, I_{RM}=1A, I_{RR}=0.25A, T_J=25^{\circ}C$	-	18	35	ns	
		$T_J=25^{\circ}C$	-	30	-		
		$T_J=125^{\circ}C$	-	50	-		
Peak Recovery Current	I_{RRM}	$T_J=25^{\circ}C$	- - - -	3.3	-	A	
		$T_J=125^{\circ}C$		6.8	-		
Reverse Recovery Charge	Q_{rr}	$T_J=25^{\circ}C$		-	50	-	nC
		$T_J=125^{\circ}C$		-	170	-	

Ratings and Characteristics Curves

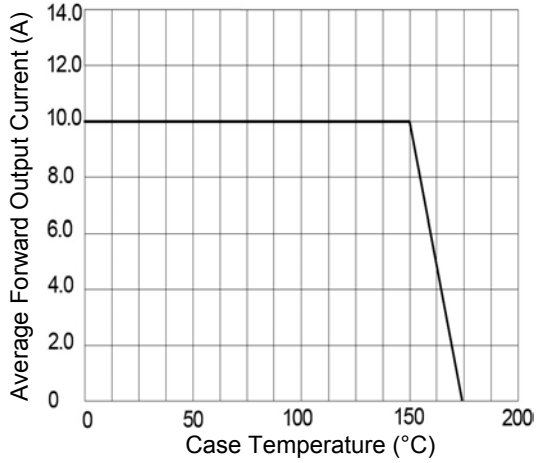


Figure 1. I_o - T_c Curve

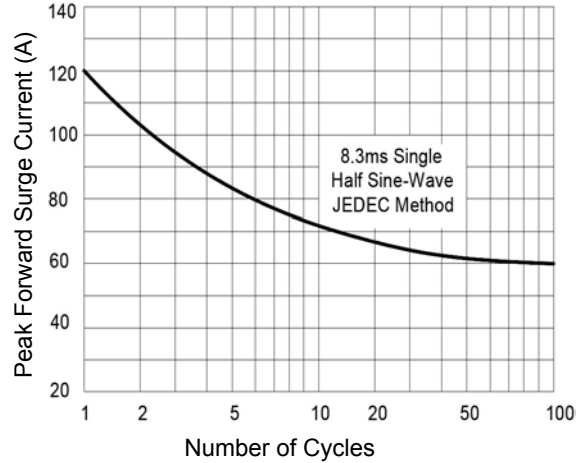


Figure 2. Surge Forward Current Capability

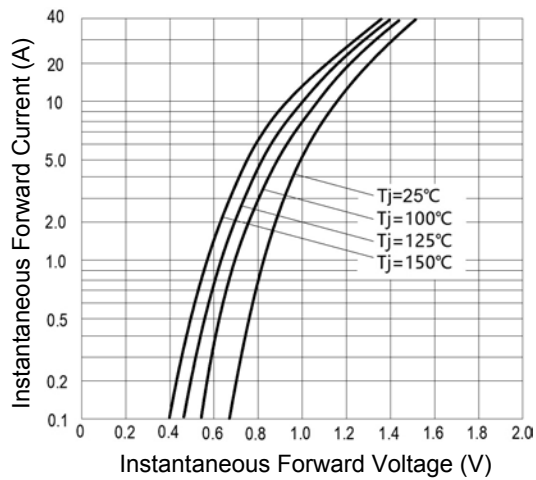


Figure 3. Forward Voltage

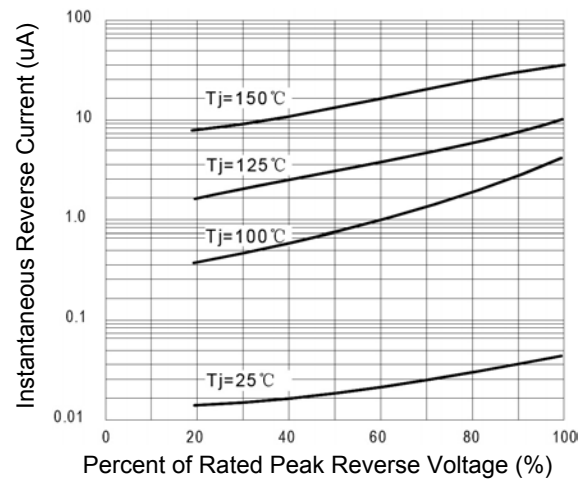
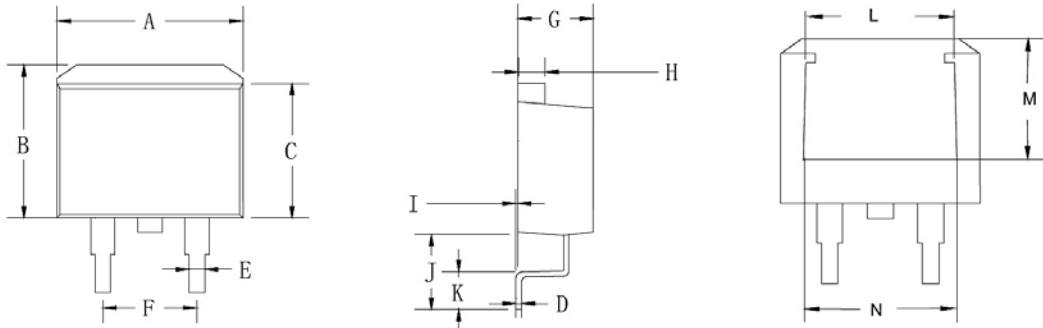


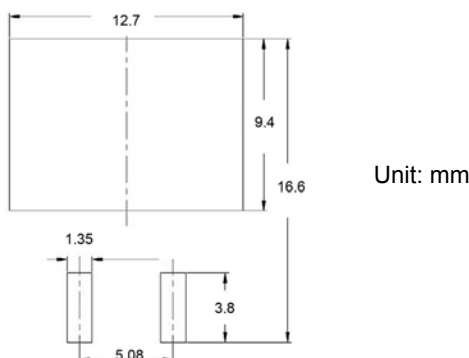
Figure 4. Instantaneous Reverse Characteristics

Package Outline Dimensions TO-263(D²PAK)



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min.	Max.	Min.	Max.
A	9.50	11.50	0.374	0.453
B	9.70	10.50	0.382	0.413
C	8.40	9.00	0.331	0.354
D	0.28	0.64	0.011	0.025
E	0.68	0.94	0.027	0.037
F	4.55	5.60	0.179	0.220
G	4.04	5.10	0.159	0.201
H	1.14	1.40	0.045	0.055
I	0.00	0.20	0.000	0.008
J	4.90	6.05	0.193	0.238
K	1.79	2.79	0.070	0.110
L	7.30	7.90	0.287	0.311
M	6.20	6.80	0.244	0.268
N	7.60	8.20	0.299	0.323

Recommended Pad Layout



Order Information

Device	Package	Marking	Carrier	Quantity
GSMURB1040	TO-263(D ² PAK)	MURB1040	Tape & Reel	1,000 Pcs / Reel