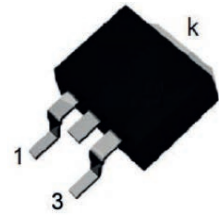


Features

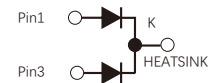
- Plastic package has underwriters laboratory flammability classification 94V-0
- Ultrafast and soft recovery time for high efficiency
- Low VF, low power loss
- Polyimide passivation
- High surge capability
- Meets JESD 201 class 2 whisker test
- High temperature soldering guaranteed: 260°C/10s at terminals
- Component in accordance to RoHS 2015/863/EU



TO-263 (D²PAK)

Mechanical Data

- Case: JEDEC TO-263
- Molding compound meets UL94V-0 flammability rating
- Terminals: Lead solderable per J-STD-002 and JESD22-B102
- Polarity: As marked



Schematic Diagram

Maximum Ratings (Ratings at 25°C ambient temperature unless otherwise specified)

Parameter	Symbol	Value	Unit
Maximum Repetitive Peak Reverse Voltage	V_{RRM}	400	V
Maximum Average Forward Rectified Current (See Fig.1)	Per Leg	10.0	A
	Total Device	20.0	
Surge Non Repetitive Forward Current $t_p=8.3ms$ Sinusoidal	I_{FSM}	200	A
Typical Thermal Resistance, from Junction to Case	$R_{\theta JC}$	1.3	°C/W
Maximum Operating Junction Temperature	T_J	175	°C
Storage Temperature Range	T_{stg}	-55 to +175	°C

Electrical Characteristics (Per Leg, $T_J=25^\circ C$ unless otherwise noted)

Parameter	Symbol	Test Conditions	Min.	Typ.	Max.	Unit	
Breakdown Voltage	V_{BR}	$I_R=200\mu A$	400	-	-	V	
Blocking Voltage	V_R						
Instaneous Forward Voltage ¹	V_F	$T_J=25^\circ C$	$I_F=5.0A$	-	0.99	-	V
			$I_F=10.0A$	-	1.10	1.30	
		$T_J=125^\circ C$	$I_F=5.0A$	-	0.85	-	
			$I_F=10.0A$	-	1.00	1.20	
Reverse Current ²	I_R	$T_J=25^\circ C$	-	-	5	μA	
		$T_J=125^\circ C$	-	-	250		
Junction Capacitance	C_J	4V, 1MHz	-	50	-	pF	
Reverse Recovery Time	t_{rr}	$I_F=0.5A, I_R=1.0A, I_{rr}=0.25A$	-	30	35	ns	

Notes:

- Pulse test: 300us pulse width, 1% duty cycle
- Pulse test: pulse width $\leq 40ms$

Ratings and Characteristics Curves

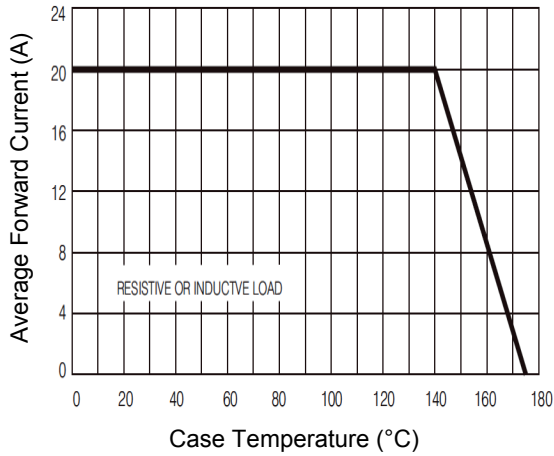


Figure 1. Forward Current Derating Curve

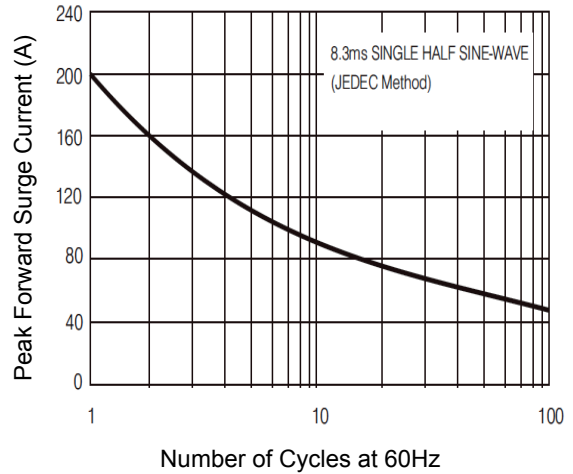


Figure 2. Maximum Non-Repetitive Peak Forward Surge Current

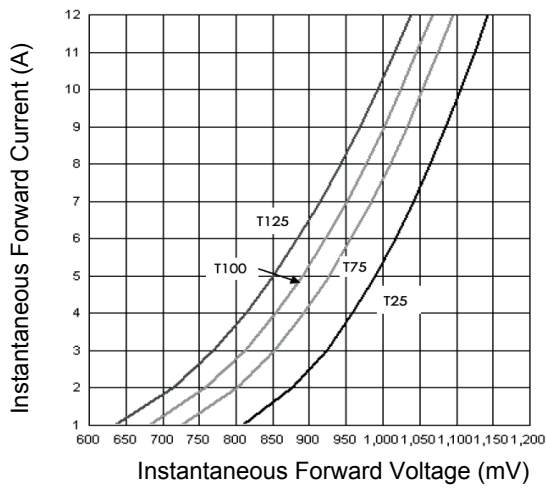


Figure 3. Typical Instantaneous Forward Characteristics

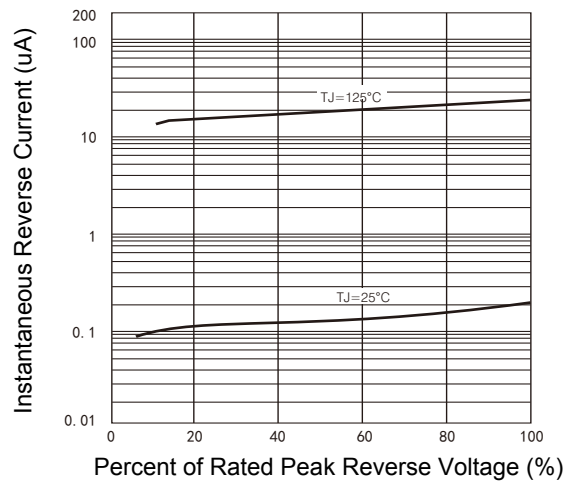


Figure 4. Typical Reverse Characteristics

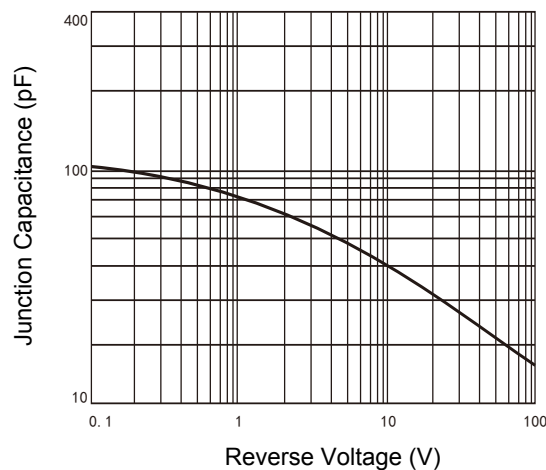
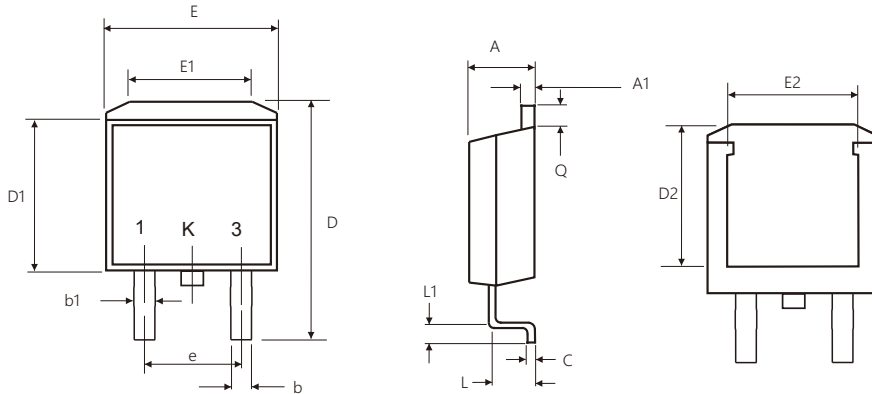


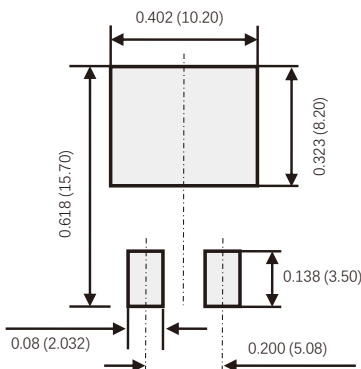
Figure 5. Typical Junction Capacitance

Package Outline Dimensions (TO-263/D²PAK)



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min.	Max.	Min.	Max.
A	4.06	4.83	0.160	0.190
A1	1.14	1.40	0.045	0.055
e	4.20	4.82	0.166	0.190
b	0.69	0.94	0.027	0.037
b1	1.20	1.34	0.047	0.053
C	0.35	0.46	0.014	0.018
D	14.22	16.22	0.560	0.639
D1	8.13	9.14	0.320	0.360
E	9.65	10.67	0.380	0.420
E1	6.22	-	0.245	-
L	2.67	3.40	0.105	0.134
L1	2.29	3.32	0.090	0.131
Q	0.92	1.68	0.036	0.066
D2	7.20	7.80	0.283	0.307
E2	7.60	8.20	0.299	0.323

Recommended Pad Layout



- Note:
1. Pad dimensions for reference
 2. Unit in inches (millimeters)

Order Information

Device	Package	Marking	Carrier	Quantity
GSMUR2040D1	TO-263/D ² PAK	MUR2040D1	Tape & Reel	800pcs / Reel