

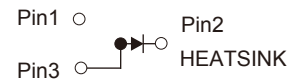
## Features

- 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/10 seconds at terminals
- Component in accordance to RoHS 2015/863/EU



## Mechanical Data

- Case: TO-263(D<sup>2</sup>PAK) molded plastic body
- Terminals: Lead solderable per MIL-STD-750, method 2026
- Polarity: As marked
- Mounting position: Any



Schematic Diagram

## Applications

- For use in boost stage in SMPS
- High frequency inverters for solar inverters
- DC/DC converters
- High frequency output rectification of battery chargers
- Free wheeling diodes in motor drivers

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

Parameter	Symbol	Value	Unit
Maximum Repetitive Peak Reverse Voltage	$V_{RRM}$	600	V
Maximum Average Forward Rectified Current	$I_{F(AV)}$	30	A
Peak Forward Surge Current 8.3ms Single Half Sine-Wave Superimposed on Rated Load (JEDEC Method at Rated $T_L$ )	$I_{FSM}$	300	A
Typical Thermal Resistance <sup>1</sup>	$R_{\theta JC}$	1	°C/W
Operating Junction Temperature Range	$T_J$	-55 to +150	°C
Storage Temperature Range	$T_{stg}$	-55 to +150	°C

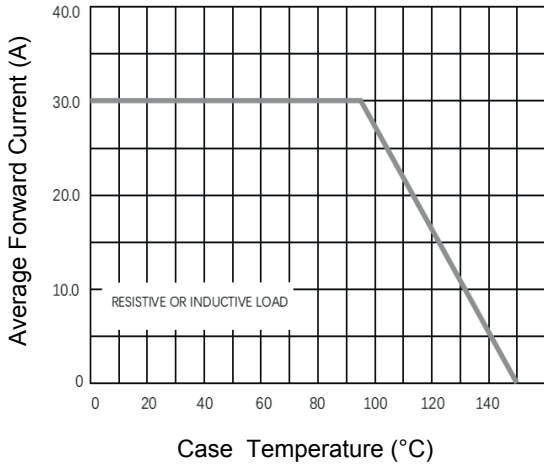
## Electrical and Dynamic Recovery Characteristics ( $T_J=25^\circ\text{C}$ unless otherwise specified)

Parameter	Symbol	Test Conditions	Min.	Typ.	Max.	Unit
Breakdown Voltage	$V_{BR}$	$I_R=200\mu\text{A}$	600	-	-	V
Blocking Voltage	$V_R$					
Instaneous Forward Voltage <sup>2</sup>	$V_F$	$I_F=15.0\text{A}, T_J=25^\circ\text{C}$	-	1.5	-	V
		$I_F=30.0\text{A}, T_J=25^\circ\text{C}$	-	1.9	2.4	
		$I_F=15.0\text{A}, T_J=125^\circ\text{C}$	-	1.2	-	
		$I_F=30.0\text{A}, T_J=125^\circ\text{C}$	-	1.6	2	
Reverse Current <sup>3</sup>	$I_R$	$V_R=600\text{V}, T_J=25^\circ\text{C}$	-	1	10	$\mu\text{A}$
		$V_R=600\text{V}, T_J=125^\circ\text{C}$	-	50	250	
Reverse Recovery Time	$t_{rr}$	$I_F=0.5\text{A}, I_R=1.0\text{A}, I_{rr}=0.25\text{A}$	-	30	40	nS

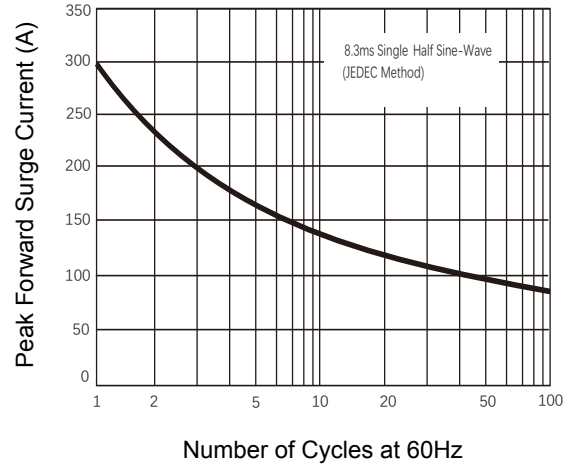
Notes:

1. Thermal resistance from junction to case
2. Pulse test: 300 $\mu\text{s}$  pulse width, 1% duty cycle
3. Pulse test: pulse width  $\leq 40\text{ms}$

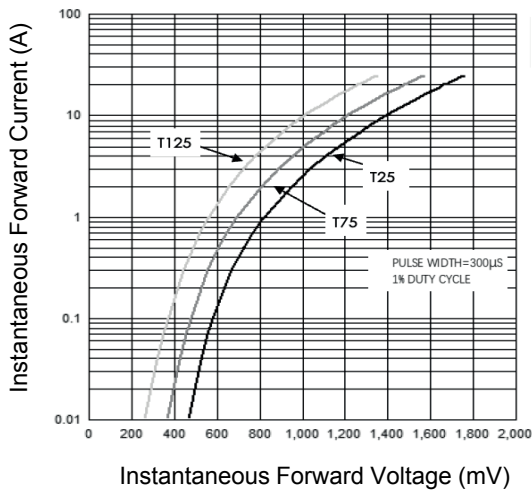
## Ratings and Characteristics Curves



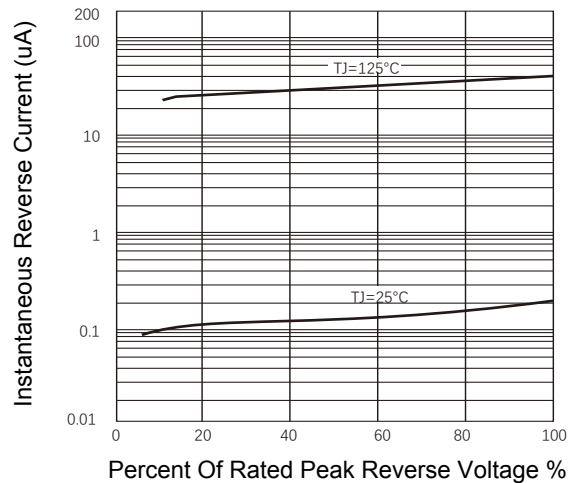
**Figure 1. Forward Current Derating Curve**



**Figure 2. Maximum Non-Repetitive Peak Forward Surge Current**

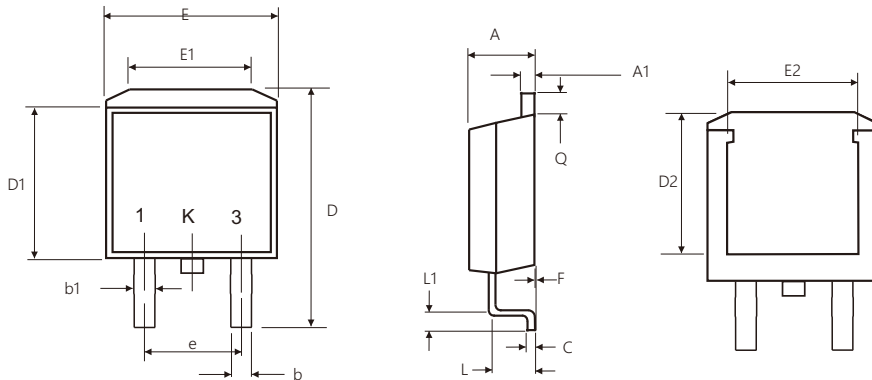


**Figure 3. Typical Instantaneous Forward Characteristics**



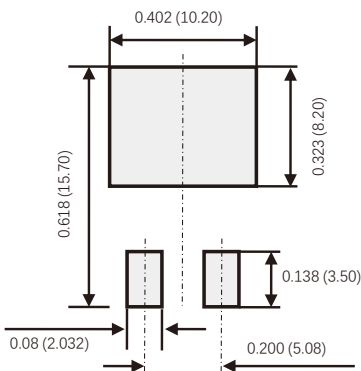
**Figure 4. Typical Reverse Characteristics**

## Package Outline Dimensions (TO-263)



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	4.98	5.18	0.196	0.204
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
F	0.02	0.30	0.001	0.012
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	Quantity	HSF Status
GSMURS3060D2	TO-263	MURS3060D2	800pcs / Reel	RoHS Compliant