

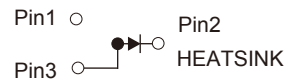
Features

- 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(D²PAK) 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 ¹	$R_{\theta JC}$	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°C unless otherwise specified)

Parameter	Symbol	Test Conditions		Min.	Typ.	Max.	Unit
Breakdown Voltage	V _{BR}	I _R =200μA		600	-	-	V
Blocking Voltage	V _R						
Instaneous Forward Voltage ²	V _F	I _F =15.0A	T _J =25°C	-	1.50	-	V
		I _F =30.0A		-	1.90	2.40	
		I _F =15.0A	T _J =125°C	-	1.20	-	
		I _F =30.0A		-	1.60	2.00	
Reverse Current ³	I _R	V _R =600V	T _J =25°C	-	1	10	μA
			T _J =125°C	-	50	250	
Reverse Recovery Time	t _{rr}	I _F =0.5A, I _R =1.0A, I _{rr} =0.25A		-	30	40	ns
			T _J =25°C	-	26	-	
			T _J =125°C	-	70	-	
Peak Recovery Current	I _R RM	I _F =30A, dI _F /dt=200A/μS, V _R =200V	T _J =25°C	-	2.8	-	A
			T _J =125°C	-	5.8	-	
Reverse Recovery Charge	Q _{rr}		T _J =25°C	-	40	-	nc
			T _J =125°C	-	360	-	

Notes:

1. Thermal resistance from junction to case
2. Pulse test: 300μs pulse width, 1% duty cycle
3. Pulse test: pulse width ≤40ms

Ratings and Characteristics Curves

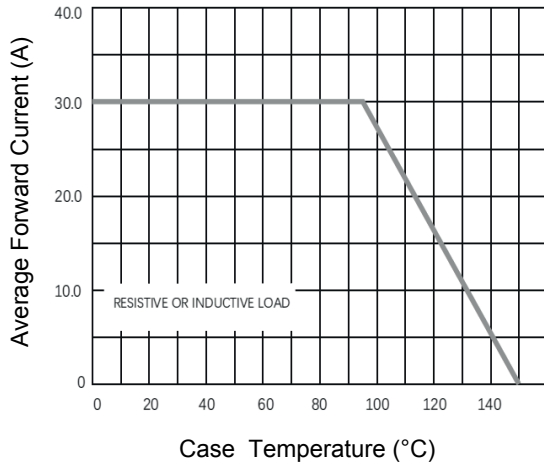


Figure 1. Forward Current Derating Curve

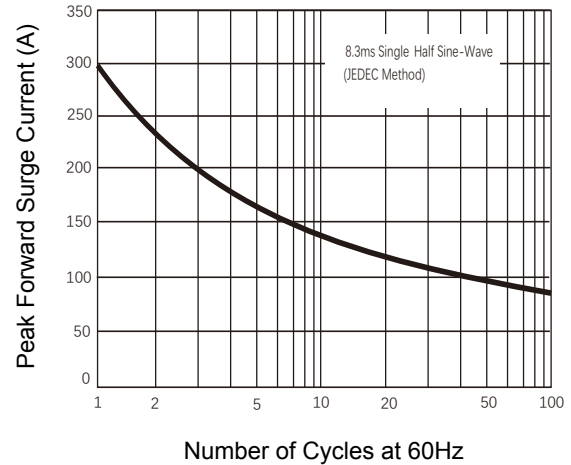


Figure 2. Maximum Non-Repetitive Peak Forward Surge Current

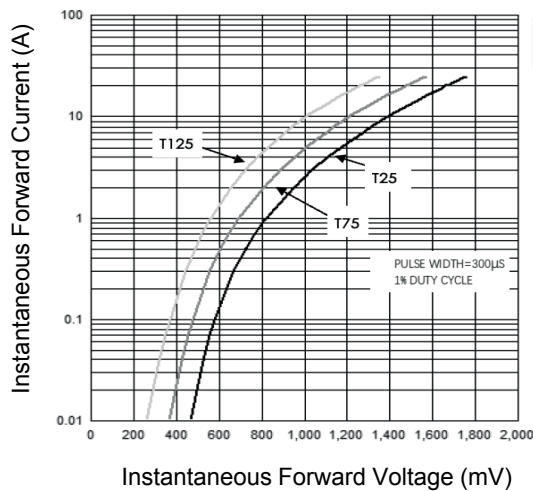


Figure 3. Typical Instantaneous Forward Characteristics

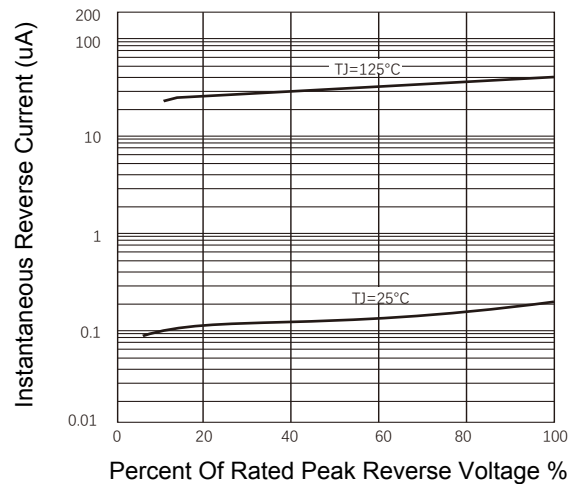


Figure 4. Typical Reverse Characteristics

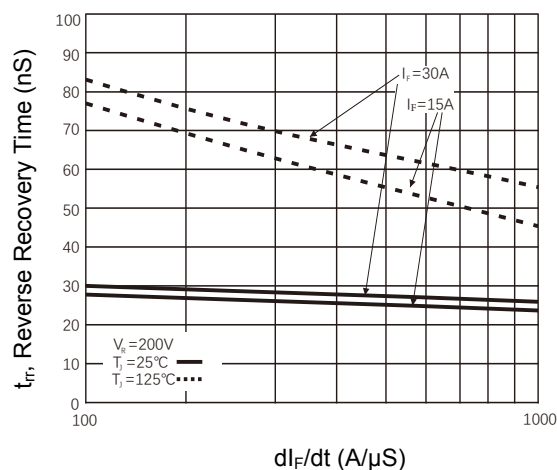


Figure 5. Typical Reverse Recovery Time vs. di_F/dt

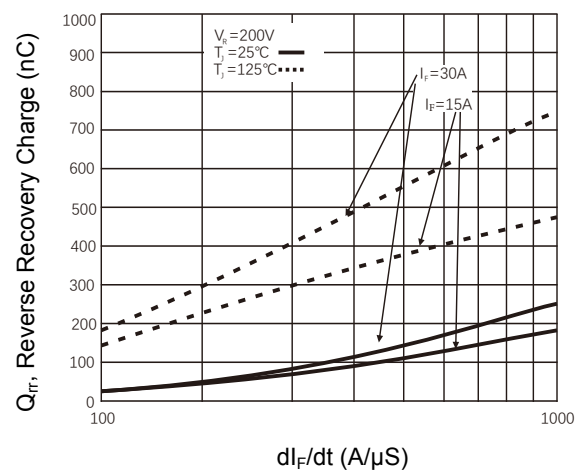


Figure 6. Typical Stored Charge vs. di_F/dt

Ratings and Characteristics Curves

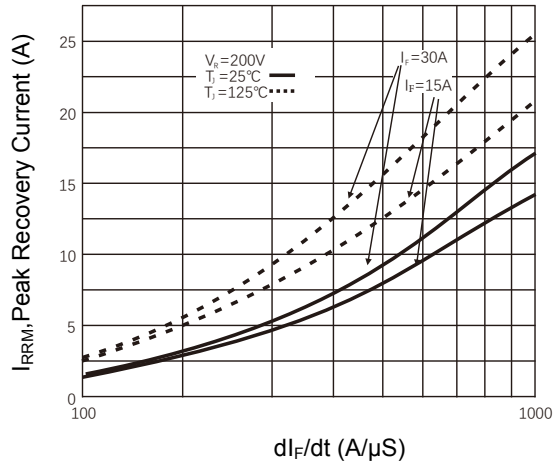
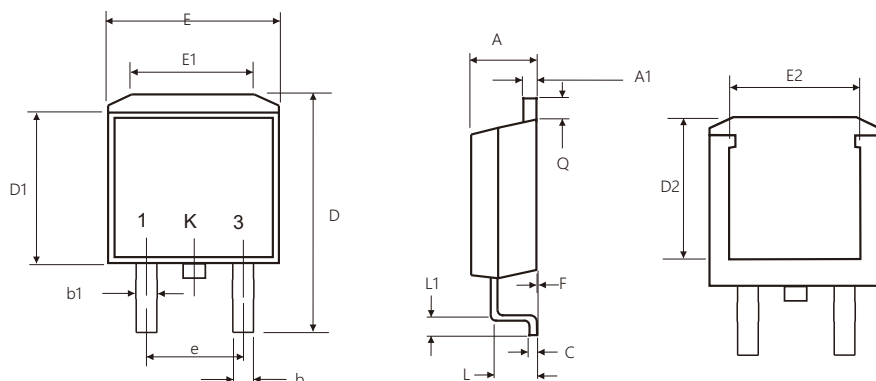


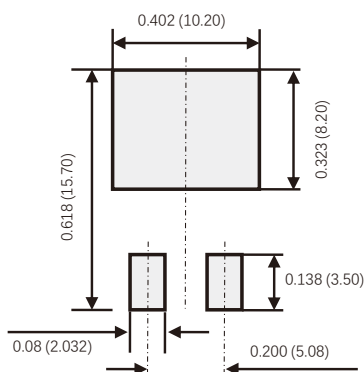
Figure 7. Typical Reverse Recovery Current vs. di_F/dt

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	Carrier	Quantity
GSMURS3060D2	TO-263	MURS3060D2	Tape & Reel	800pcs / Reel