GOOD-ARK SEMICONDUCTOR

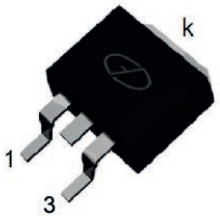
GSR4040D3

Schottky Barrier Rectifier

Reverse Voltage 40V Forward Current 40A

Features

- Power pack
- Low power loss, high efficiency
- High current capability
- Low forward voltage drop
- High temperature soldering guaranteed: 260°C/10 seconds at terminals
- Component in accordance to RoHS 2015/863/EU



Package: TO-263

Mechanical Data

- Case: TO-263, plastic
- Molding compound meets UL94V-0 flammability rating
- Terminals: Lead solderable per JESD22-B102
- Polarity: As marked

Schematic Diagram

Applications

For use in DC/DC converters and photovoltaic cell freewheel diode.

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

Parameter	Symbol	Value	Unit
Maximum Repetitive Peak Reverse Voltage	V_{RRM}	40	V
Maximum Average Forward Rectified Current	$I_{F(AV)}$	40	A
Peak Forward Surge Current 8.3ms Single Half Sine-Wave Superimposed On Rated Load Per Leg (JEDEC Method at Rated TL)	I_{FSM}	300	A
Thermal Resistance from Junction to Case	$R_{\theta JC}$	1.0	°C/W
Operating Junction Temperature Range	T_J	-55 to +150	°C
Storage Temperature Range	T_{STG}	-55 to +150	°C

Electrical Characteristics (T_A=25°C unless otherwise noted)

Parameter	Symbol	Test Coditions		Typ	Max	Unit
Instaneous Forward Voltage[1]	V_F	T_J=25°C	I_F=10A	0.42	-	V
			I_F=15A	0.45	-	
			I_F=40A	0.56	0.6	
		T_J=150°C	I_F=10A	0.27	-	
			I_F=15A	0.34	-	
			I_F=40A	0.49	-	
Reverse Current[2]	I_R	V_R=40V	T_J=25°C	-	200	uA
			T_J=125°C	-	100	mA

Notes:

1. Pulse test: 300μs pulse width, 1% duty cycle
2. Pulse test: pulse width ≤ 40ms

Ratings and Characteristics Curves (T_A=25°C unless otherwise noted)

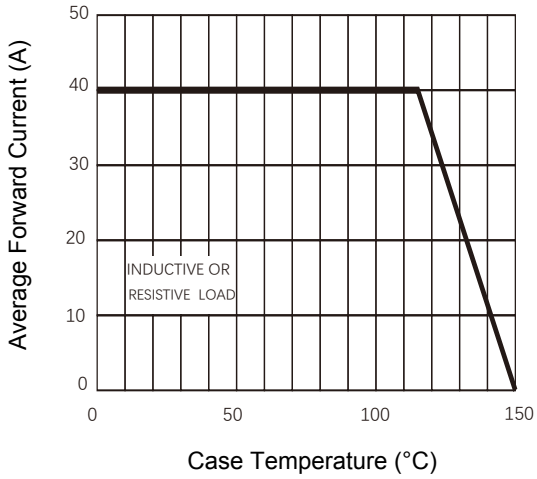


Figure 1. Forward Current Derating Curve

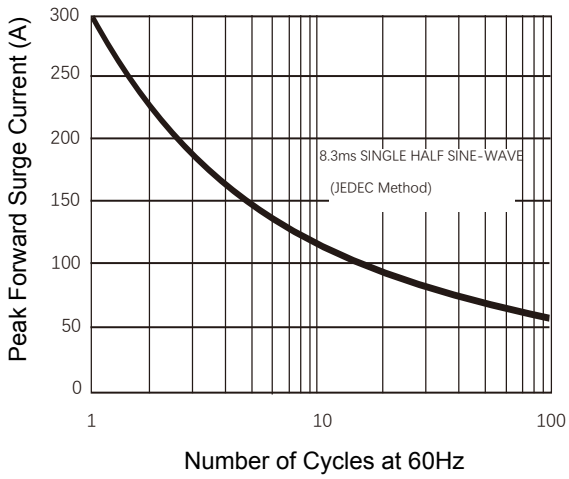


Figure 2. Maximum Non-Repetitive Peak Forward Surge Current

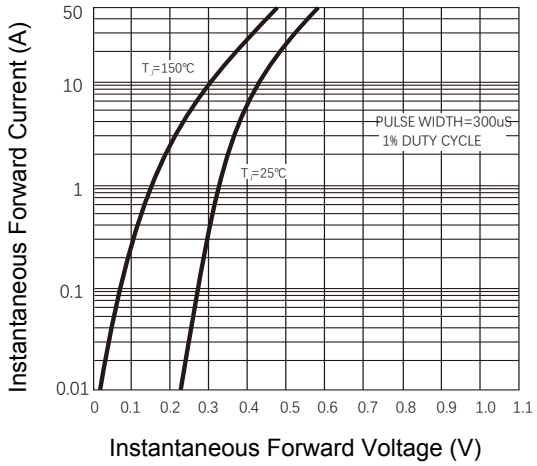


Figure 3. Typical Instantaneous Forward Characteristics

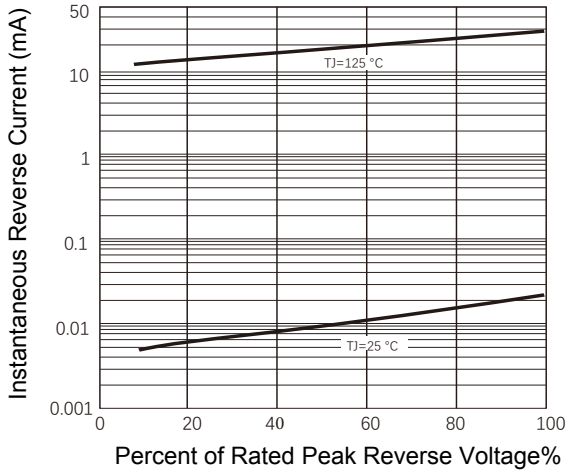


Figure 4. Typical Reverse Characteristics

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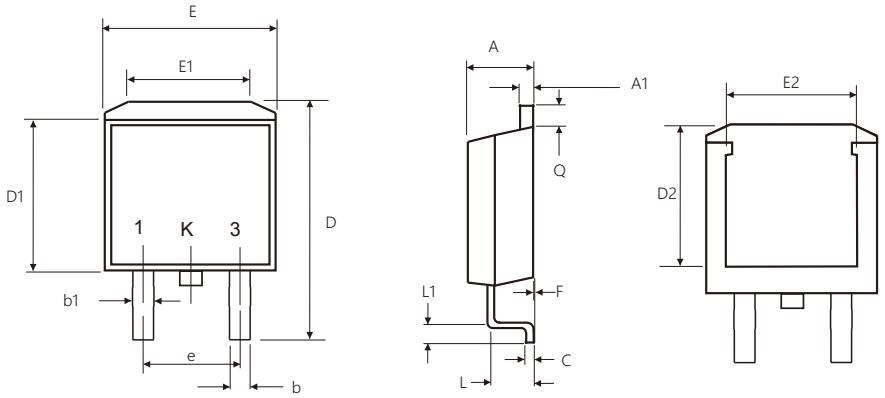
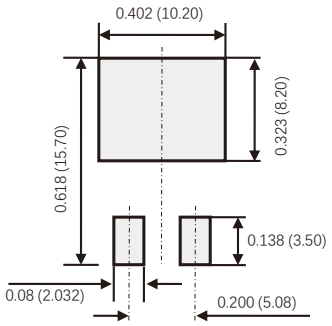
Reverse Voltage 40V Forward Current 40A

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



Unit: inch (mm)