GOOD-ARK SEMICONDUCTOR

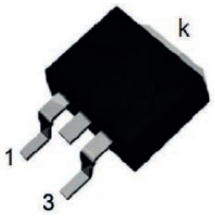
GSR4060LD1

Schottky Barrier Rectifier

Reverse Voltage 60V Forward Current 40A

Features

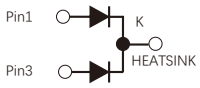
- Metal silicon junction, majority carrier conduction
- Guard ring for over-voltage protection
- Low power loss, high efficiency
- High current capability, low forward voltage drop
- High forward surge capability
- High frequency operation



TO-263 (D^2PAK)

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}	60	V
Maximum Average Forward Rectified Current (see Figure.1)	Per Leg	$I_{F(AV)}$	20.0	A
	Total Device		40.0	
Peak Forward Surge Current 8.3ms Single Half Sine-Wave Superimposed on Rated Load (JEDEC Method at Rated T_L)		I_{FSM}	350	A
Peak Repetitive Reverse Current per Diode at t_p=2μs 1KHz		I_{RRM}	0.5	A
Typical Thermal Resistance[1]		$R_{\theta JC}$	0.8	°C/W
Operating Junction and Storage Temperature Range		T_J, T_{stg}	-55 to +150	℃

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

Parameter	Symbol	Test Conditions		Typ.	Max.	Unit
Instaneous Forward Voltage[2]	V_F	I_F=20.0A	T_A=25℃	0.54	0.56	V
			T_A=100℃	0.54	-	
			T_A=125℃	0.54	-	
		I_F=10.0A	T_A=25℃	0.44	-	
			T_A=100℃	0.41	-	
			T_A=125℃	0.40	-	
Reverse Current[3]	I_R	V_R=60V	T_A=25℃	100	150	μA
			T_A=100℃	7	10	mA
			T_A=125℃	20	50	
Typical Junction Capacitance	C_J	4V, 1MHz		1120		pF

Notes:

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

Ratings and Characteristics Curves

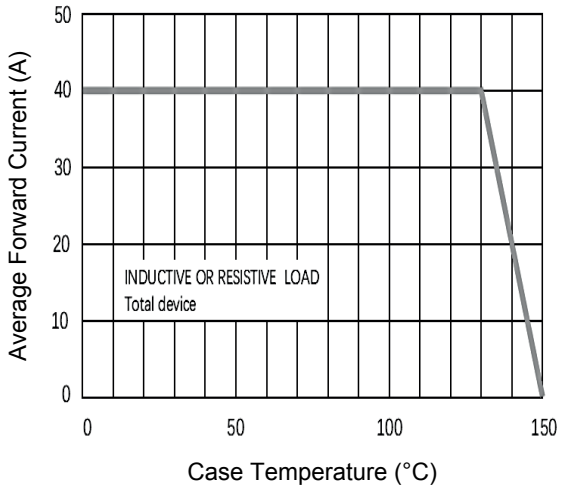


Figure 1. Forward Current Derating Curve

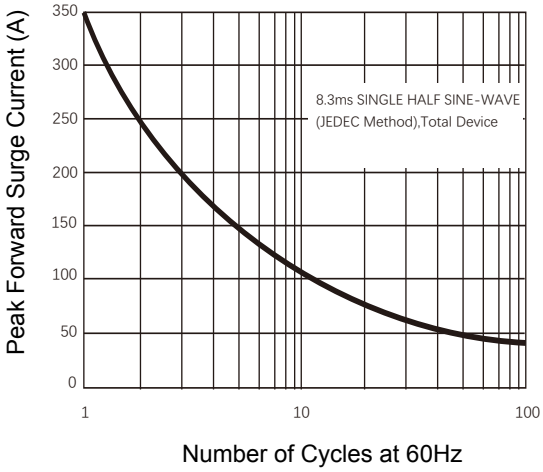


Figure 2. Maximum Non-Repetitive Peak Forward Surge Current

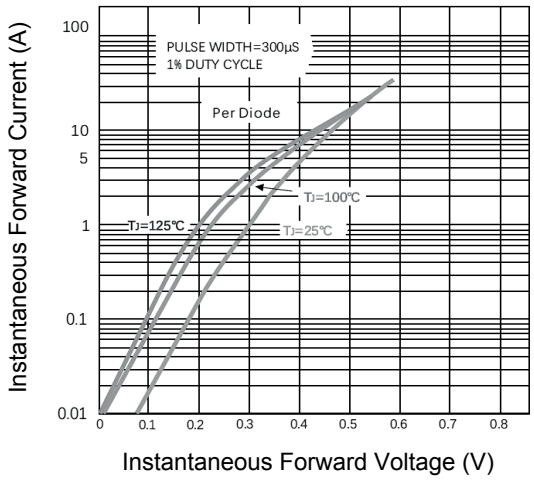


Figure 3. Typical Instantaneous Forward Characteristics

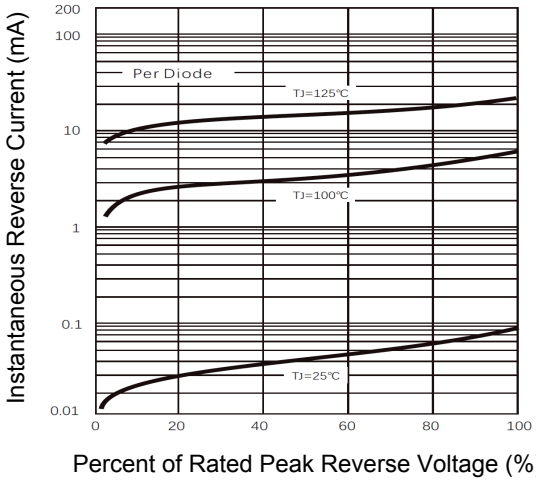


Figure 4. Typical Reverse Characteristics

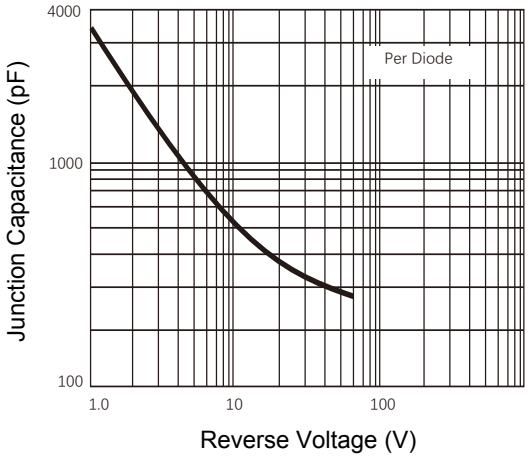


Figure 5. Typical Junction Capacitance

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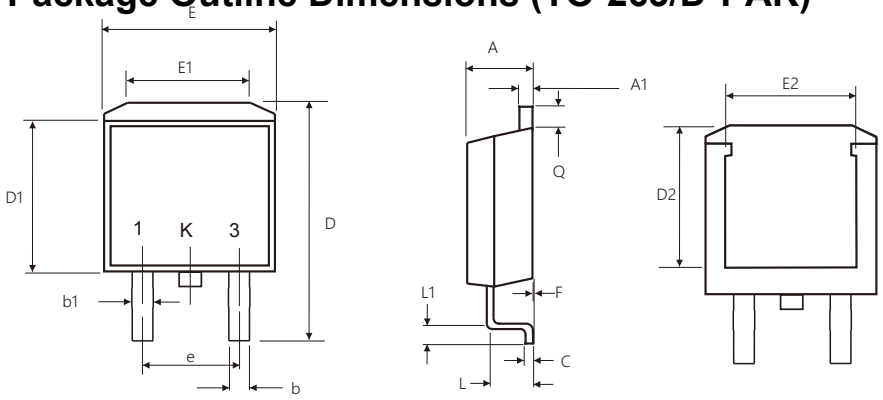
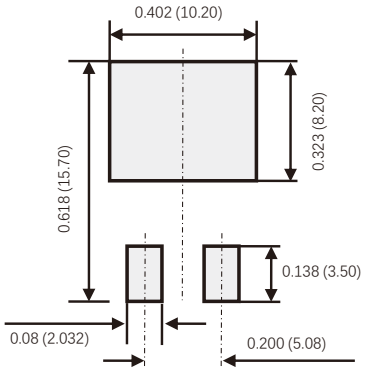
Package Outline Dimensions (TO-263/D²PAK)



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	4.98	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
GSR4060LD1	TO-263	SR4060LD1	Tape & Reel	800pcs / Reel