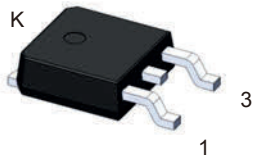
GOOD-ARK SEMICONDUCTOR

GSR5100LM2

Schottky Barrier Rectifier
Reverse Voltage 100V Forward Current 5.0A

Features

- Power pack
- Metal silicon junction, majority carrier conduction
- Guard ring for overvoltage protection
- Low power loss, high efficiency
- High current capability, ultra low forward voltage drop
- High forward surge capability
- High frequency operation
- Per J-STD-020, LF max peak of 260°C
- Component in accordance to RoHS 2015/863/EU



TO-252

Schematic Diagram

Mechanical Data

- Case: JEDEC TO-252
- Molding compound meets UL94V-0 flammability rating
- Terminals: Lead solderable per J-STD-002 and JESD22-B102
- Polarity: As marked

Applications

For use in low voltage, high frequency inverters, DC/DC converters, free wheeling, and polarity protection applications

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

Parameter	Symbol	Value	Unit
Maximum Repetitive Peak Reverse Voltage	V_{RRM}	100	V
Maximum Average Forward Rectified Current (See Fig.1)	$I_{F(AV)}$	5	A
Peak Forward Surge Current 8.3ms Single Half Sine-Wave Superimposed on Rated Load Per Leg (JEDEC Method at Rated T_L)	I_{FSM}	120	A
Typical Thermal Resistance, From Junction to Case	$R_{\theta JC}$	1.6	°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 Conditions		Typ.	Max.	Unit
Instantaneous Forward Voltage[1]	V_F	I_F=1A	T_J=25°C	0.53	-	V
		I_F=3A		0.65	-	
		I_F=5A		0.69	0.73	
		I_F=1A	T_J=125°C	0.42	-	
		I_F=3A		0.52	-	
		I_F=5A		0.56	-	
Reverse Current[2]	I_R	V_R=100V	T_J=25°C	-	3.5	μA
			T_J=100°C	-	0.5	mA
			T_J=125°C	-	2.5	
Typical Junction Capacitance	C_J	4V, 1MHz		220		pF

Notes:

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

Ratings and Characteristics Curves

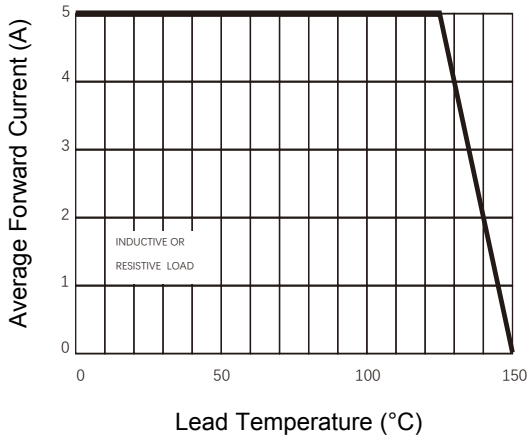


Figure 1. Forward Current Derating Curve

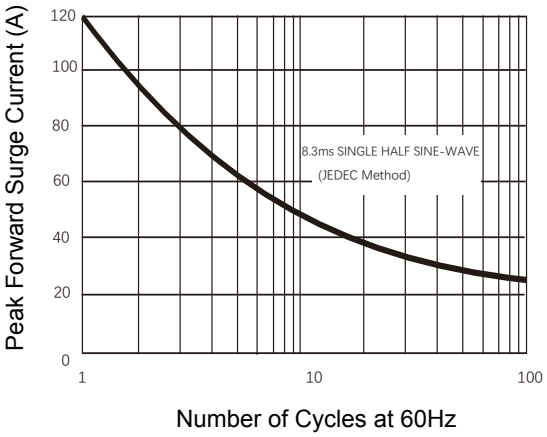


Figure 2. Maximum Non-Repetitive Peak Forward Surge Current

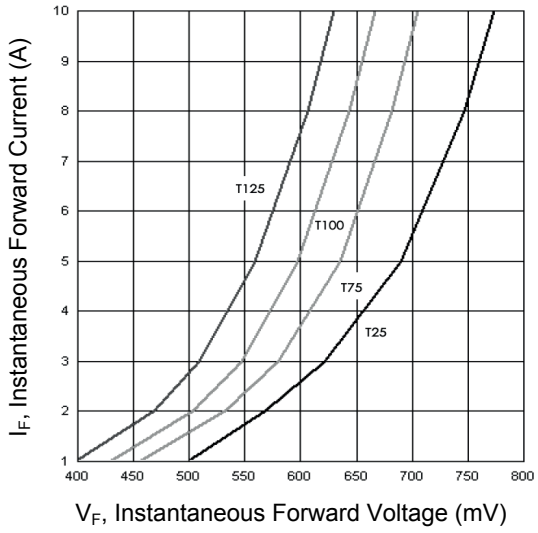


Figure 3. Typical Instantaneous Forward Characteristics

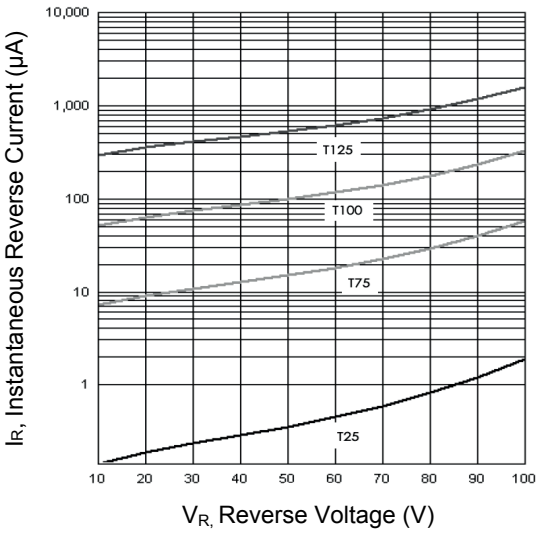


Figure 4. Typical Reverse Characteristics

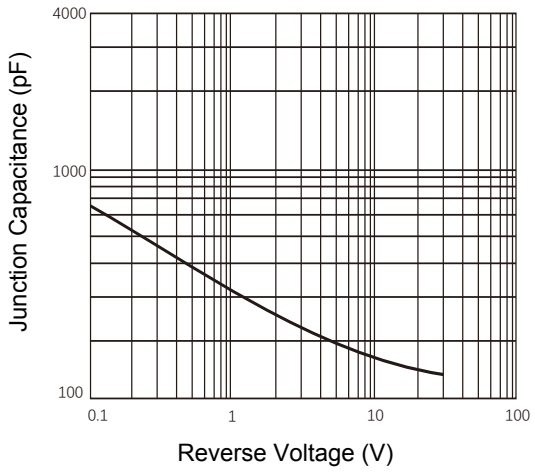


Figure 5. Typical Junction Capacitance

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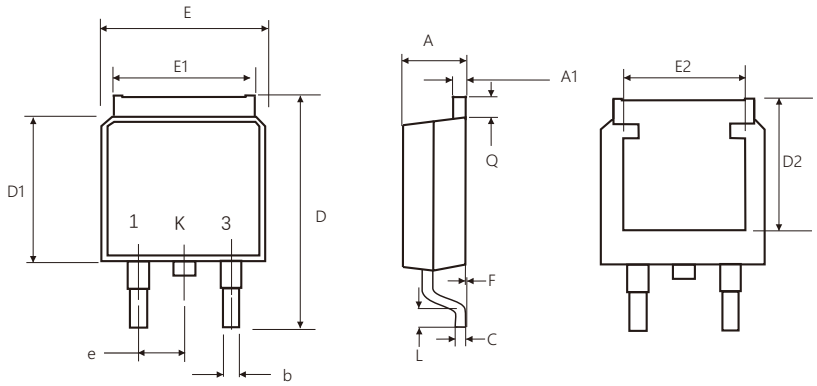
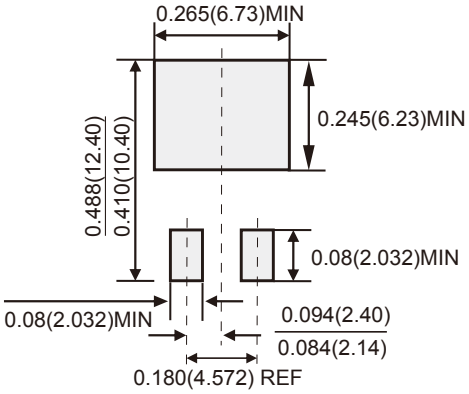
Package Outline Dimensions (TO-252)



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min.	Max.	Min.	Max.
A	2.15	2.65	0.085	0.104
A1	0.42	0.58	0.017	0.023
e	2.14	2.40	0.084	0.094
b	0.64	0.89	0.025	0.035
Q	0.88	1.27	0.035	0.050
C	0.42	0.58	0.017	0.023
D	9.00	10.41	0.354	0.410
D1	5.60	6.22	0.220	0.245
E	6.20	6.73	0.244	0.265
E1	5.21	5.46	0.205	0.215
L	1.00	-	0.039	-
F	0.01	0.11	0.000	0.004
D2	5.11	5.58	0.201	0.220
E2	4.31	5.33	0.170	0.210

Recommended Pad Layout



Notes:

1. Unit in inches (millimeters)
2. Pad layout for reference

Order Information

Device	Package	Marking	Carrier	Quantity
GSR5100LM2	TO-252	SR5100LM2	Tape & Reel	2,500pcs / Reel