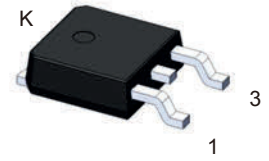


Features

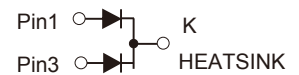
- Plastic package has Underwriters Laboratory Flammability Classification 94V-0
- Metal silicon junction, majority carrier conduction
- Guard ring for overvoltage protection
- Low power loss, high efficiency
- High current capability, low forward voltage drop
- High surge capability
- For use in low voltage, high frequency inverters, free wheeling, and polarity protection applications
- High temperature soldering guaranteed: 260°C/10 seconds
- Component in accordance to RoHS 2011/65/EU



TO-252

Mechanical Data

- Case: JEDEC TO-252 molded plastic body
- Terminals: Solderable per MIL-STD-202, method 208
- Polarity: As marked
- Mounting position: Any



Schematic Diagram

Maximum Ratings

(Ratings at 25°C ambient temperature unless otherwise specified, single phase, half wave, resistive or inductive load. For capacitive load, derate by 20%.)

Parameter	Symbols	GSR 2030M1	GSR 2040M1	GSR 2045M1	GSR 2060M1	GSR 20150M1	GSR 20200M1	Units
Maximum Repetitive Peak Reverse Voltage	V_{RRM}	30	40	45	60	150	200	V
Maximum RMS Voltage	V_{RMS}	21	28	32	42	105	140	V
Maximum DC Blocking Voltage	V_{DC}	30	40	45	60	150	200	V
Maximum Average Forward Rectified Current See Figure.1	Per Leg	10						A
	Total Device	20						A
Peak Forward Surge Current 8.3ms Single Half Sine-wave Superimposed On Rated Load (JEDEC Method)	I_{FSM}	200						A
Typical Thermal Resistance ²	$R_{\theta JC}$	2.5						°C/W
Operating Junction Temperature Range	T_J	-55 to +150						°C
Storage Temperature Range	T_{STG}	-55 to +150						

Electrical Characteristics

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

Parameter	Symbols	GSR 2030M1	GSR 2040M1	GSR 2045M1	GSR 2060M1	GSR 20150M1	GSR 20200M1	Units
Maximum Instantaneous Forward Voltage Per Diode @ $I_F=10A$	V_F	0.60			0.75	0.90	0.95	V
Maximum Instantaneous Reverse Current at Rated DC Blocking Voltage ¹	$T_A=25^\circ C$	200				50		μA
	$T_A=100^\circ C$	5				-		mA
	$T_A=125^\circ C$	-				5		

Notes:

1. Pulse test: 300 μS pulse width, 1% duty cycle
2. Thermal resistance from junction to case

Ratings and Characteristics Curves

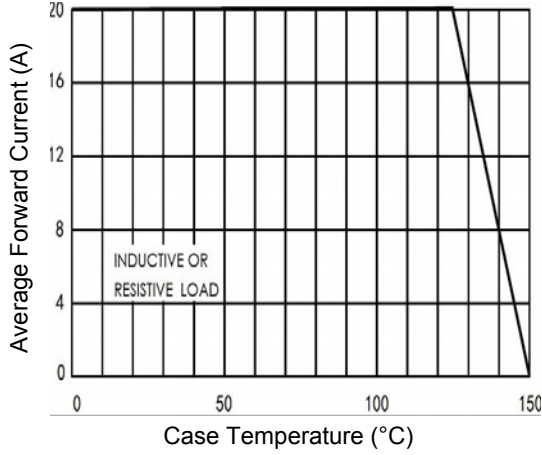


Figure 1. Forward Current Derating Curve

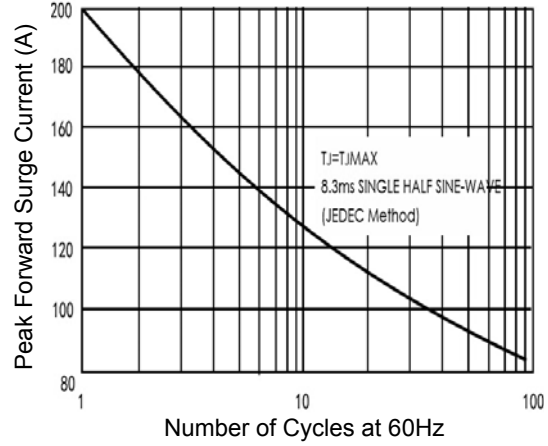


Figure 2. Maximum Non-Repetitive Peak Forward Surge Current

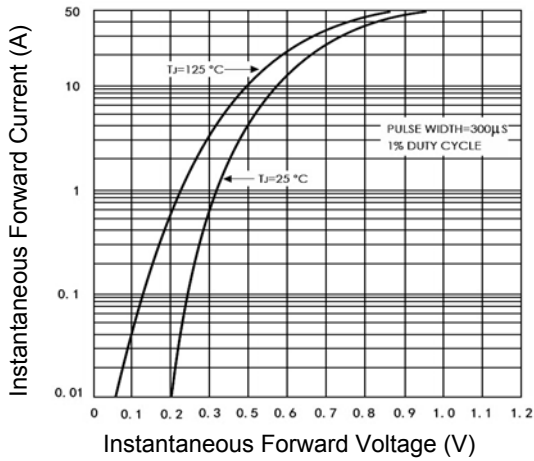


Figure 3. Typical Instantaneous Forward Characteristics

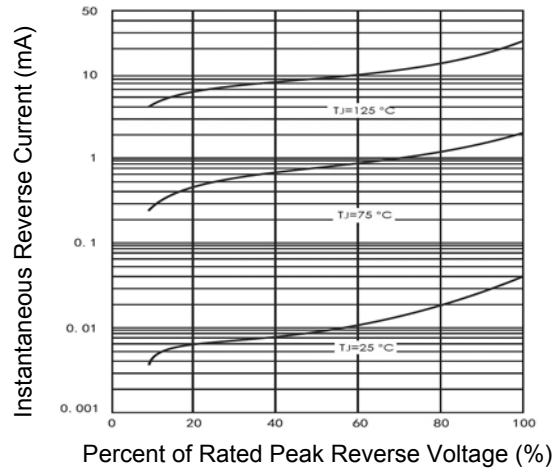


Figure 4. Typical Reverse Characteristics

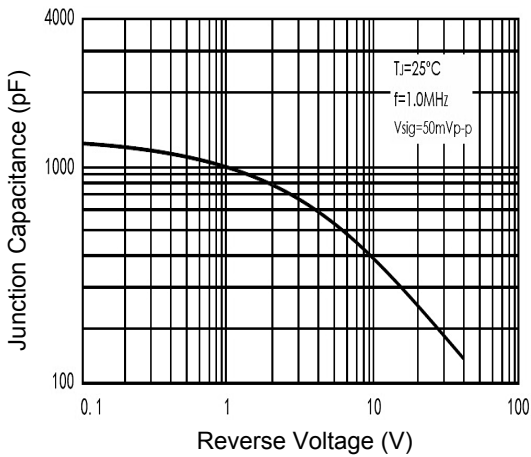
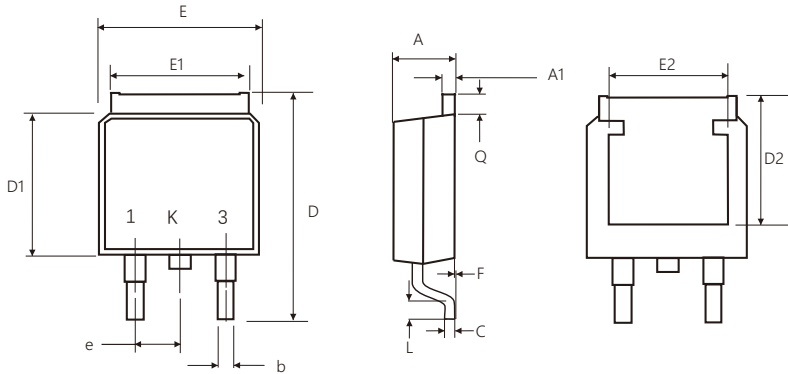


Figure 5. Typical Junction Capacitance

GSR2030M1 thru GSR20200M1

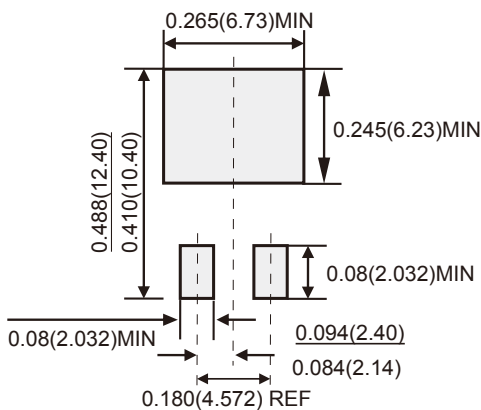
Schottky Barrier Rectifiers
 Reverse Voltage 30V to 200V Forward Current 20A

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



Note:

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



GSR2030M1 thru GSR20200M1

Schottky Barrier Rectifiers
Reverse Voltage 30V to 200V Forward Current 20A

Order Information

Device	Package	Marking	Carrier	Quantity
GSR2030M1	TO-252	SR2030M1	Tape & Reel	2,500 Pcs / Reel
GSR2040M1	TO-252	SR2040M1	Tape & Reel	2,500 Pcs / Reel
GSR2045M1	TO-252	SR2045M1	Tape & Reel	2,500 Pcs / Reel
GSR2060M1	TO-252	SR2060M1	Tape & Reel	2,500 Pcs / Reel
GSR20150M1	TO-252	SR20150M1	Tape & Reel	2,500 Pcs / Reel
GSR20200M1	TO-252	SR20200M1	Tape & Reel	2,500 Pcs / Reel

For more information, please contact us at: inquiry@goodarksemi.com