

Features

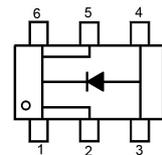
- Very low forward voltage
- High surge current

Applications

- Low voltage rectification
- High efficiency DC/DC conversion
- Inverse polarity protection
- Low power consumption applications



SOT-563



Schematic Diagram

Absolute Maximum Ratings (T_A=25°C unless otherwise noted)

Parameter	Symbols	Value	Unit
Maximum Repetitive Peak Reverse Voltage	V _{RRM}	40	V
Maximum Average Forward Rectified Current	I _{F(AV)}	0.5	A
Peak Forward Surge Current 8.3ms Single Half Sine-Wave Superimposed on Rated Load (JEDEC Method)	I _{FSM}	9	A
Typical Thermal Resistance, Junction to Ambient ¹	R _{θJA}	405	°C/W
Typical Thermal Resistance, Junction to Ambient ²	R _{θJA}	215	°C/W
Operating Junction Temperature	T _J	125	°C
Storage Temperature Range	T _{STG}	-55 to +125	°C

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

Parameter	Symbol	Condition	Min.	Typ.	Max.	Unit
Reverse Breakdown Voltage	V _{(BR)R}	I _R =100μA	40	-	-	V
Forward Voltage	V _F	I _F =0.1mA	-	-	0.18	V
		I _F =1mA	-	-	0.22	
		I _F =10mA	-	-	0.35	
		I _F =100mA	-	-	0.4	
		I _F =500mA	-	-	0.47	
Reverse Current	I _R	V _R =10V	-	7	20	μA
		V _R =40V	-	30	100	
Diode Capacitance	C _D	V _R =1V, f=1MHz	-	85	-	pF

Note:

1. Device mounted on FR-4 substrate PC board, 2oz copper, with minimum recommended pad layout.
2. Device mounted on FR-4 substrate PC board, 2oz copper, with 1-inch square copper plate.

Electrical Characteristic Curves

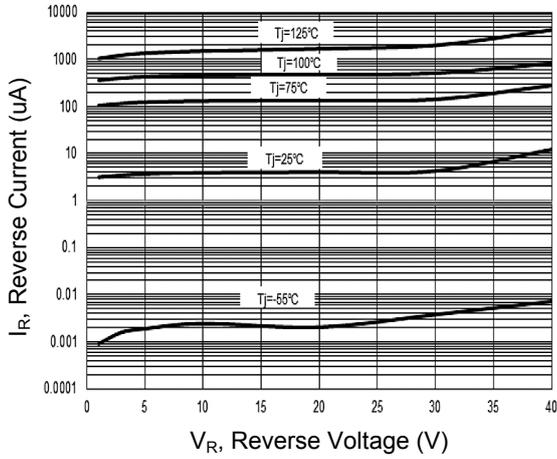


Figure 1. Reverse Characteristic Curve

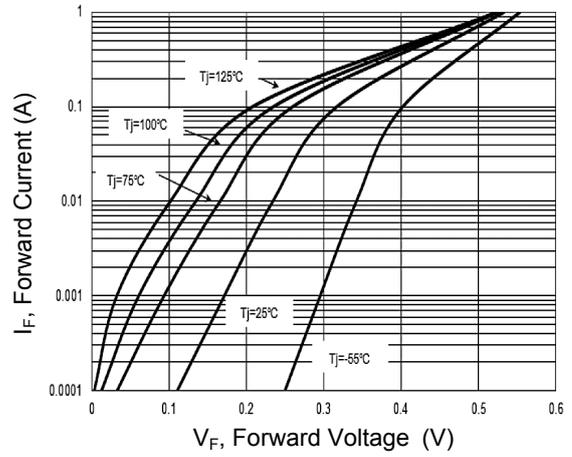


Figure 2. Forward Characteristic Curve

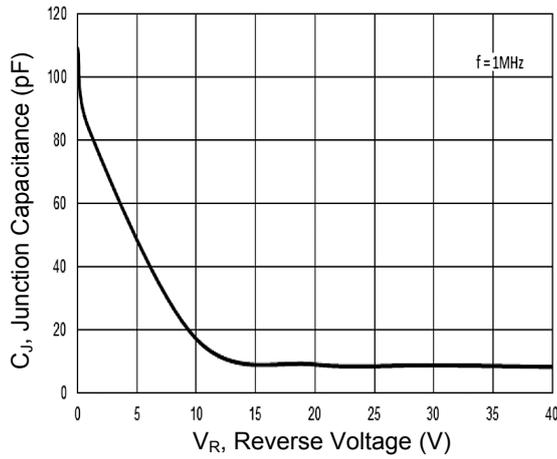


Figure 3. Junction Capacitance

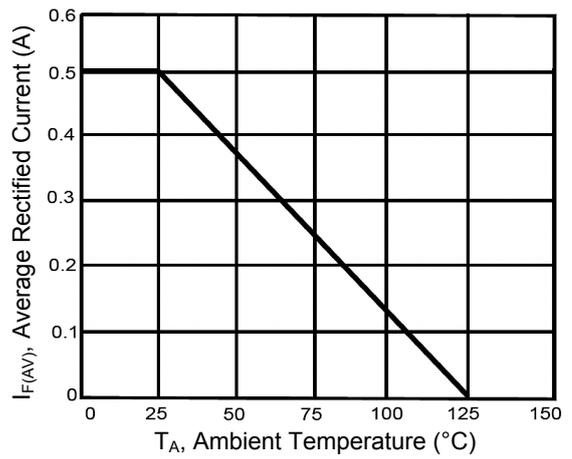
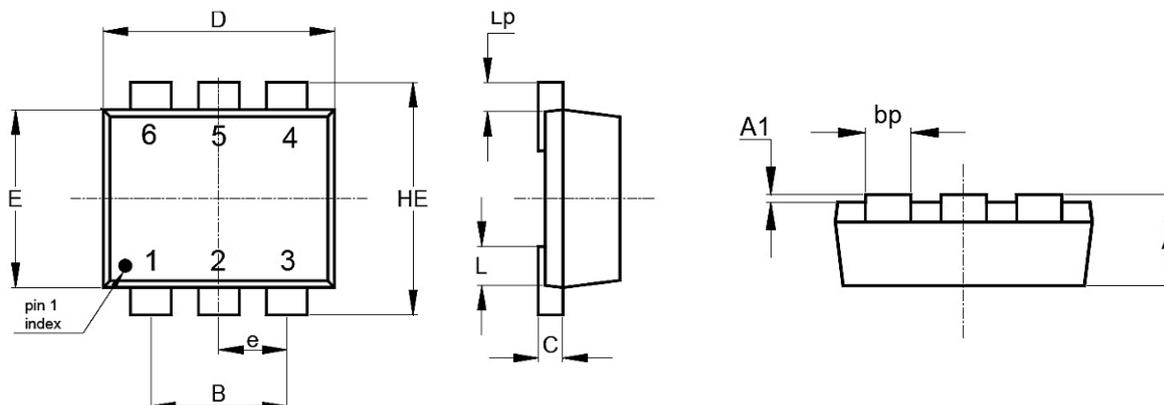


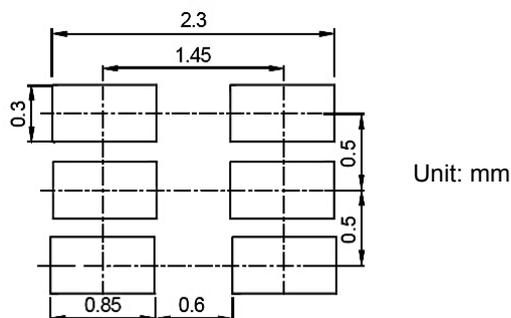
Figure 4. Average Rectified Current Derating Curve

Package Outline Dimensions (SOT-563)



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min.	Max.	Min.	Max.
A	0.500	0.600	0.020	0.024
A1	0.000	0.050	0.000	0.002
B	1.000 TYP		0.039 TYP	
C	0.100	0.180	0.004	0.007
D	1.500	1.700	0.059	0.067
E	1.100	1.250	0.043	0.049
HE	1.550	1.700	0.061	0.067
e	0.500 TYP		0.020 TYP	
L	0.020	0.150	0.001	0.006
Lp	0.100	0.300	0.004	0.012
bp	0.150	0.300	0.006	0.012

Recommended Pad Layout



Order Information

Device	Package	Marking	Packaging	SPQ
GSBAT4005J	SOT-563	SK	Tape & Reel	4,000 Pcs / Reel