GOOD-ARK SEMICONDUCTOR

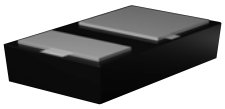
GSBD240

Schottky Barrier Diode

Reverse Voltage 40V Forward Current 2A

Features

- Low forward voltage drop
- Low reverse current
- Leadless ultra small SMD package



DFN1608

Applications

- Low voltage rectification
- High efficiency DC-to-DC conversion
- Switch Mode Power Supply (SMPS)
- Reverse polarity protection
- Low power consumption applications

Schematic Diagram

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

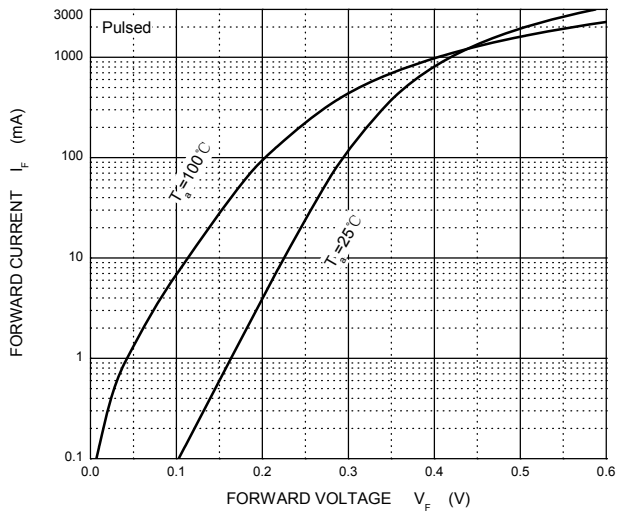
Parameter	Symbol	Value	Unit
Peak Repetitive Reverse Voltage	V_{RRM}	40	V
Working Peak Reverse Voltage	V_{RWM}	40	V
RMS Reverse Voltage	$V_{R(RMS)}$	28	V
Average Rectified Output Current	I_O	2	A
Non-repetitive Peak Forward Surge Current @ t=8.3ms	I_{FSM}	15	A
Power Dissipation[1]	P_D	0.6	W
Thermal Resistance from Junction to Ambient [1]	$R_{\Theta JA}$	167	°C/W
Operating Junction Temperature Range	T_J	-40 to +125	°C
Storage Temperature Range	T_{SGT}	-55 to +150	°C

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

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Reverse Voltage	$V_{(BR)}$	I_R=250μA	40	-	-	V
Reverse Current	I_R	V_R=20V	-	5	20	μA
		V_R=40V	-	10	50	μA
Forward Voltage	V_F	I_F=1.0A	-	0.42	0.45	V
		I_F=1.5A	-	0.46	0.5	V
		I_F=2.0A	-	0.52	0.58	V
Diode Capacitance	C_d	V_R=0V; f=1MHz;	-	180	-	pF

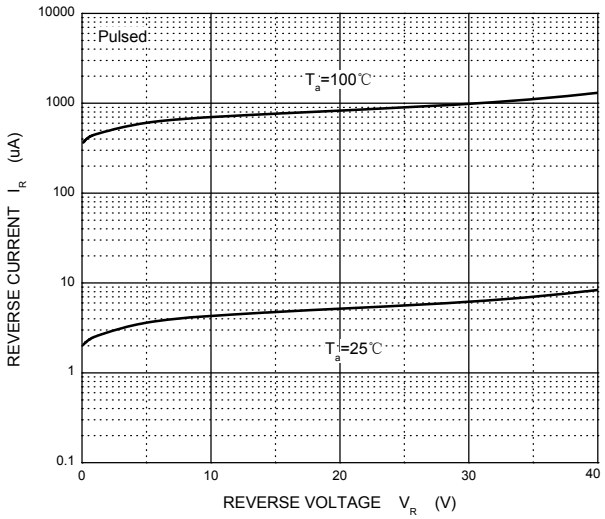
Notes: 1. Device mounted on FR-4 PCB, 2 oz. Copper, minimum recommended pad layout per

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



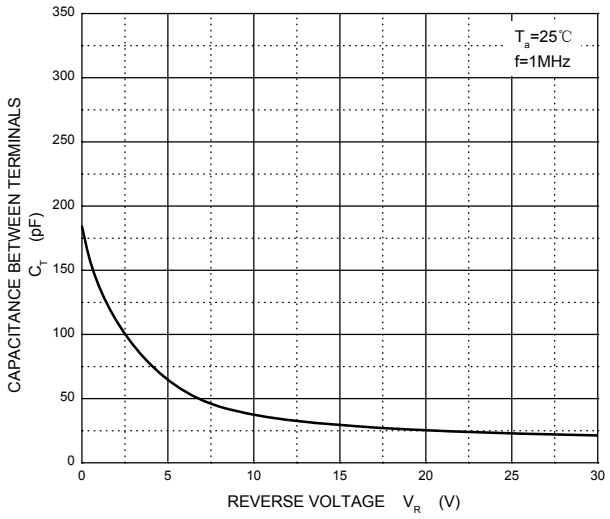
Forward Voltage (V)

Figure 1. Forward Voltage vs. Forward Current



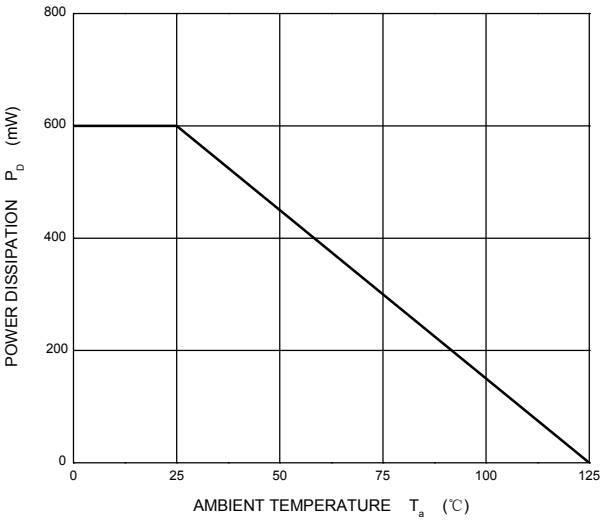
Reverse Voltage (V)

Figure 2. Reverse Current vs. Reverse Voltage



Reverse Voltage (V)

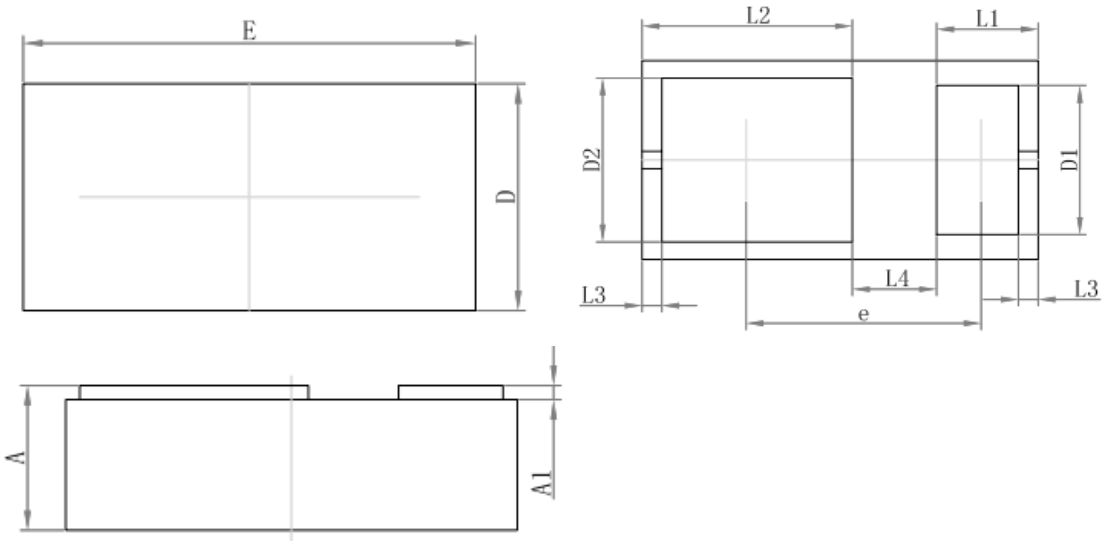
Figure 3. Junction Capacitance vs. Reverse Voltage



Power Derating Curve

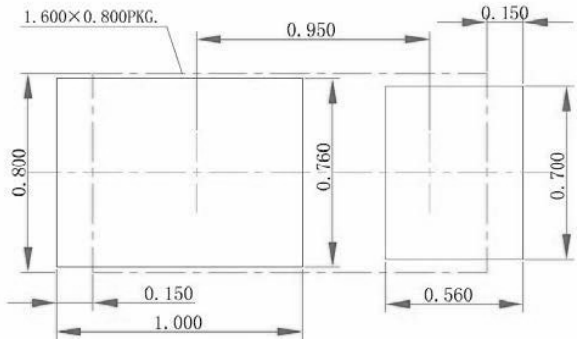
Figure 4. Junction Capacitance vs. Reverse Voltage

Package Outline Dimensions (DFN1608)



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min.	Max.	Min.	Max.
A	0.450	0.550	0.018	0.022
A1	0.010	0.090	0.000	0.004
D	0.750	0.850	0.030	0.033
D1	0.520	0.680	0.020	0.027
D2	0.600	0.760	0.024	0.030
E	1.550	1.650	0.061	0.065
L1	0.410 REF.		0.016 REF.	
L2	0.850 REF.		0.033 REF.	
L3	0.080 REF.		0.003 REF.	
L4	0.340 REF.		0.013 REF.	
e	0.900	1.000	0.035	0.039

Suggested Pad Layout (unit:mm)



Note:

1.Controlling dimension:in millimeters.

2.General tolerance:±0.050mm.

3.The pad layout is for reference purposes only.

Marking and Ordering Information

MPN	Package	Marking	Quantity	HSF Status
GSBD240	DFN1608	B	10000pcs / Reel	RoHS/HF Compliant