

5A,40-45V Schottky Barrier Rectifiers

Features

- Low leakage current
- Schottky barrier diodes
- Low forward voltage drop
- Moisture sensitivity: level 1, per J-STD-020
- Halogen-free according to IEC 61249-2-21 definition
- High temperature soldering guaranteed: 260°C/10 seconds



Applications

For use in low voltage, high frequency inverters, free-wheeling and polarity protection application.

Maximum Ratings & Electrical Characteristics (TA=25°C unless otherwise noted)				
Parameter	Symbol	LSL54	LSL545	Unit
Maximum repetitive peak reverse voltage	V _{RRM}	40	45	V
Maximum RMS voltage	V _{RMS}	28	31.5	V
Maximum DC blocking voltage	V _{DC}	40	45	V
Maximum average forward rectified current	I _{F(AV)}	5		A
Peak forward surge current, 8.3ms single half sine-wave superimposed on rated load per diode	I _{FSM}	120		A
Operating junction temperature range	T _J	-55 to +150		°C
Storage temperature range	T _{STG}	-55 to +150		°C

Thermal-Mechanical Specifications (TA=25°C unless otherwise noted)			
Parameter	Symbol	Typ	Unit
Thermal Resistance, Junction to Ambient	R _{θJA}	85	°C /W
Thermal Resistance, Junction to Case	R _{θJC}	15	°C /W
Thermal Resistance, Junction to Lead	R _{θJL}	18	°C /W

Electrical Specifications(T _A =25°C unless otherwise noted)					
Parameter	Symbol	Test Conditions	Typ	Max	Unit
Forward Drop Voltage	V _F	I _F =1A T _A =25°C	0.31	0.35	V
		I _F =2A T _A =25°C	0.34	0.40	
		I _F =5A T _A =25°C	0.40	0.45	
		I _F =5A T _A =125°C	0.32	-	
Reverse leakage current @V _R	I _R	T _J =25°C	0.3		mA
		T _J =125°C	100		
Typical junction capacitance	C _J	4.0 V 1 MHZ	420		pF

Note:

1. Mounted on copper pad area of 0.2x0.2" (5.0 x 5.0mm) to each terminal.

Ratings and Characteristics Curves

($T_A = 25^\circ\text{C}$ unless otherwise noted)

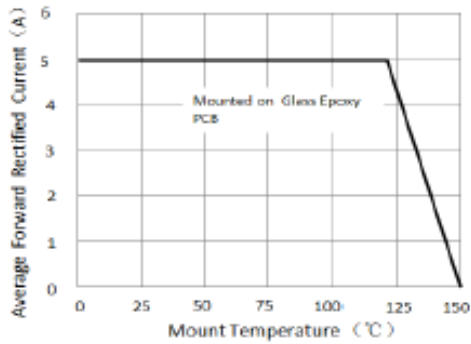


Figure 1. Forward Current Derating Curve

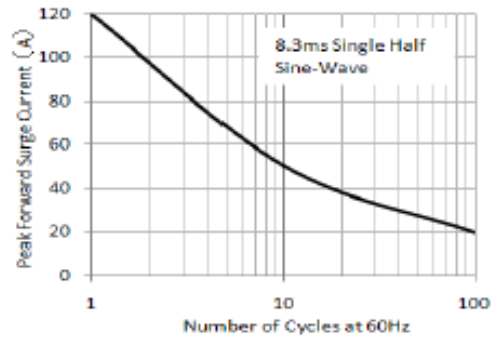


Figure 2. Maximum Non-Repetitive Peak Forward Surge Current

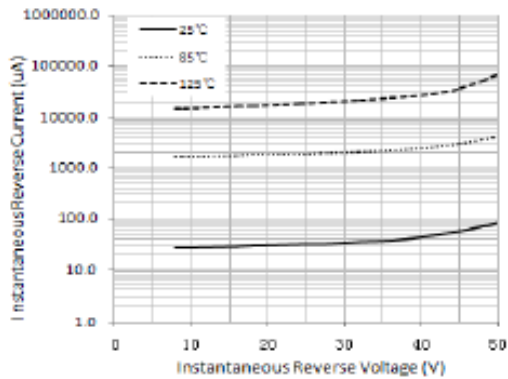


Figure 3. Typical Reverse Characteristics

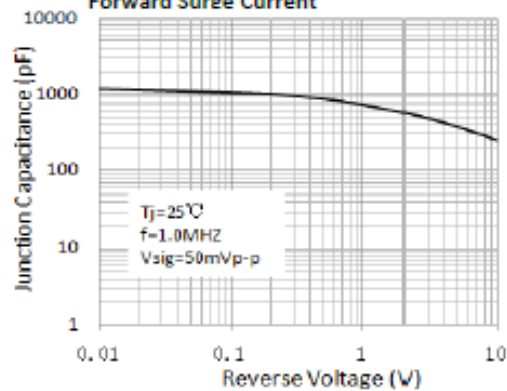


Figure 4. Typical Junction Capacitance

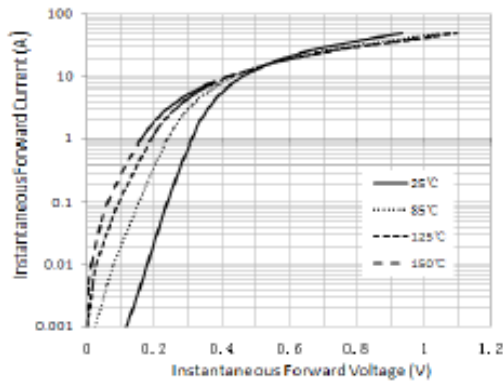
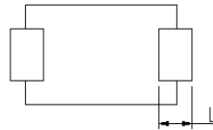
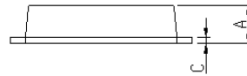
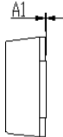
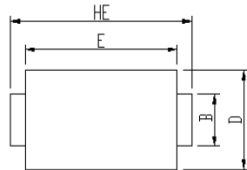


Figure 5. Typical Instantaneous Forward Characteristics

Package Outline Dimensions

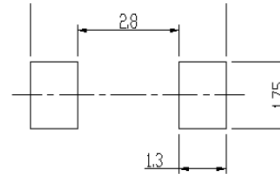
in inches (millimeters)

eSGB (DO-221AC)



DIM	Unit: mm		Unit: inch	
	MIN	MAX	MIN	MAX
A	0.92	1.08	0.036	0.043
A1	0	0.1	0.000	0.004
B	1.25	1.45	0.049	0.057
C	0.1	0.25	0.004	0.010
D	2.6	2.8	0.102	0.110
E	4.1	4.3	0.161	0.169
L	0.7	1.1	0.028	0.043
HE	4.8	5.2	0.189	0.205

Soldering footprint



Revision History

Document Version	Date of release	Description of changes
Rev.A	2021.06.01	Released Datasheet
Rev.B	2023.10.12	Modify document format
Rev.C	2023.12.29	Modify package name
Rev.D	2024.04.25	Modify information of the table