

**LOW VF SURFACE MOUNT SCHOTTKY BARRIER RECTIFIER****DESCRIPTION:**

The ALPSL110 is 1.0A Low VF Surface Mount Schottky Barrier Rectifier – 110V are low profile package, Ideal for automated placement and guarding for overvoltage protection. Use in low voltage high frequency inverters, freewheeling, converters, and Telecommunication applications.

**FEATURES:**

- Very low-profile typical height of 0.95mm
- Tiny plastic SMD package
- Low power losses, high efficiency
- High current capability, Low forward voltage drop
- High surge capability
- Silicon epitaxial planar chip, metal silicon junction
- Lead-free parts meet RoHS requirements
- Suffix "-H" indicates Halogen free parts, ex. ALPSL110-H

**APPLICATIONS:**

- General purpose rectification of lighting
- Power supplies
- Inverters & Converters
- Freewheeling diodes for consumer
- Automotive
- Telecommunication

**MECHANICAL CHARACTERISTICS**

- Epoxy: UL94-V0 rated flame retardant.
- Case: Molded plastic, SOD-123S/MINI SMA.
- Terminals: Plated terminals, Solderable per MIL-STD-750, Method 2026
- Polarity: Color band denotes cathode except bi-directional models
- Mounting Position: Any.
- Approximate Weight: 0.0155 grams.

**TYPICAL DEVICE CHARACTERISTICS**

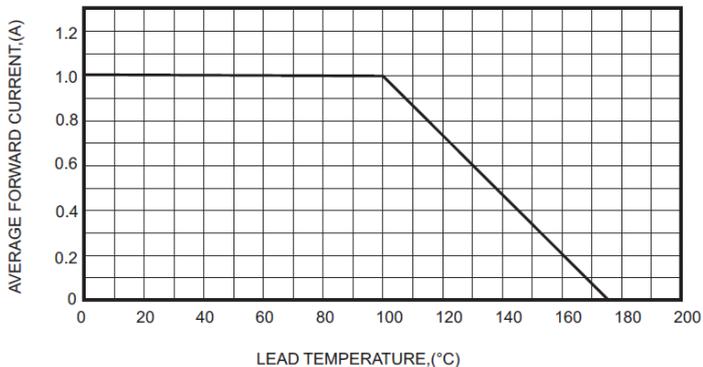
MAXIMUM RATINGS (T <sub>A</sub> = 25 °C unless otherwise noted)			
PARAMETER	SYMBOL	ALPSL110	UNIT
Maximum repetitive peak reverse voltage	V <sub>RRM</sub>	100	V
Maximum RMS voltage	V <sub>RMS</sub>	70	V
Maximum continuous reverse voltage	V <sub>R</sub>	100	V
Maximum average forward rectified current	I <sub>O</sub>	1.0	A
Non-repetitive Peak forward surge current 8.3 ms single half sine-wave (JEDEC Method)	I <sub>FSM</sub>	50	A
Operating junction temperature range	T <sub>J</sub>	-55 to +175	°C
Storage temperature range	T <sub>STG</sub>	-65 to +175	°C

ELECTRICAL CHARACTERISTICS (T <sub>A</sub> = 25 °C unless otherwise noted)				
PARAMETER	TEST CONDITIONS	SYMBOL	ALPSL110	UNIT
Maximum instantaneous forward voltage	I <sub>F</sub> = 1.0A	V <sub>F</sub>	0.75	V
Maximum reverse leakage current at rated V <sub>R</sub>	T <sub>J</sub> = 25 °C	I <sub>R</sub>	0.05	mA
	T <sub>J</sub> = 125 °C		10	mA

THERMAL CHARACTERISTICS (T <sub>A</sub> = 25 °C unless otherwise noted)			
PARAMETER	SYMBOL	ALPSL110	UNIT
Typical thermal resistance <sup>(1)</sup> junction to ambient	R <sub>θJA</sub>	78	°C/W
Typical thermal resistance <sup>(1)</sup> junction to case	R <sub>θJC</sub>	38	
<b>Note:</b>			
<sup>(1)</sup> Mounted on FR-4 PCB Copper, minimum recommended pad layout.			

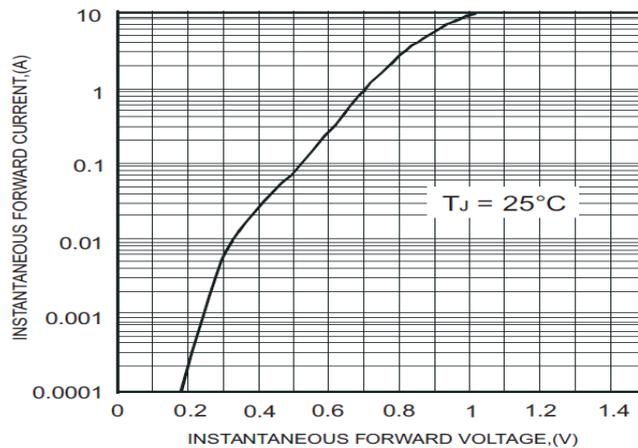
**TYPICAL DEVICE CHARACTERISTICS CURVES**

FIG.1-TYPICAL FORWARD CURRENT DERATING CURVE

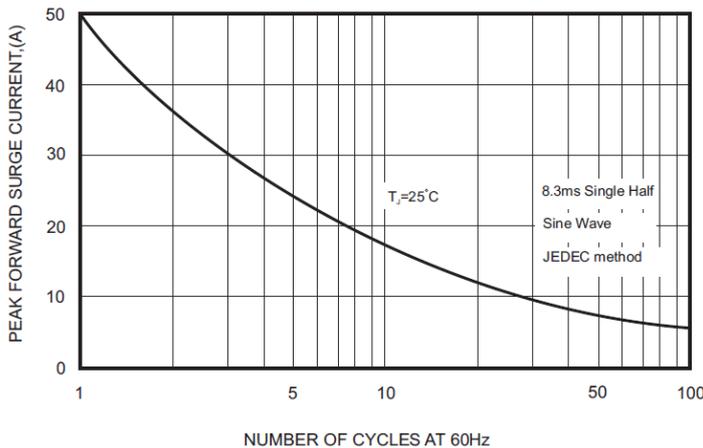


**Fig1. TYPICAL FORWARD CURRENT DERATING CURVE**

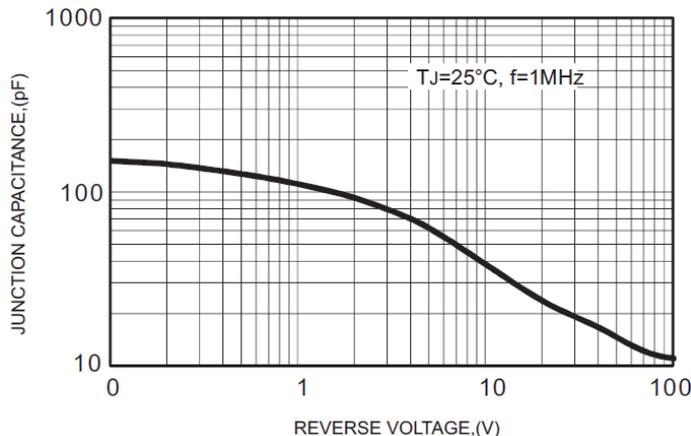
CHARACTERISTICS



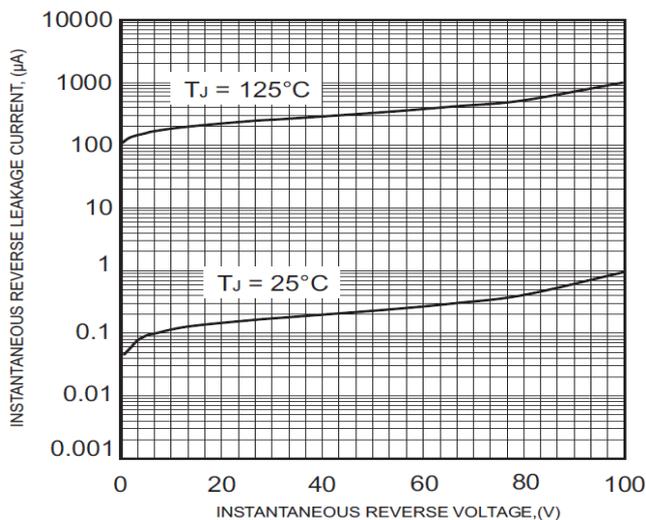
**Fig2. TYPICAL FORWARD CHARACTERISTICS**



**Fig3. MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT**



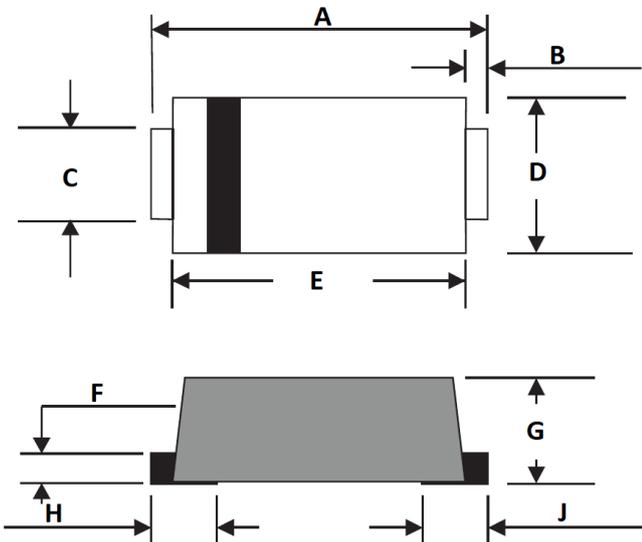
**Fig4. TYPICAL JUNCTION CAPACITANCE**



**Fig.5 TYPICAL REVERSE CHARACTERISTICS**

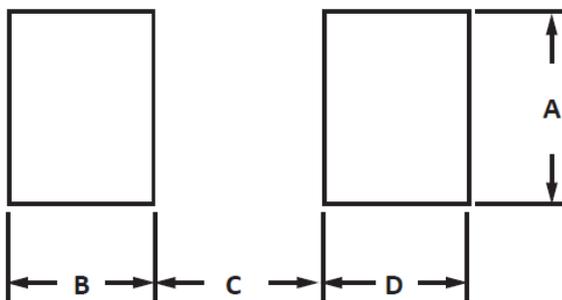
**PACKAGE INFORMATION**

**SOD-123S (MINI SMA)**



OUTLINE DIMENSIONS				
DIM	MILLIMETERS		INCHES	
	MIN	MAX	MIN	MAX
A	3.50	3.90	0.138	0.154
B	0.45		0.018	
C	0.70	1.10	0.028	0.044
D	1.60	2.00	0.063	0.079
E	2.60	3.00	0.103	0.119
F	0.18	0.22	0.007	0.009
G	0.90	1.00	0.036	0.040
H	0.80		0.032	
J	0.80		0.032	

**NOTES**  
1. Dimensions are exclusive of mold flash and metal burrs.



PAD LAYOUT DIMENSIONS		
DIM	MILLIMETERS	INCHES
	Typ.	Typ.
A	1.10	0.044
B	1.00	0.040
C	2.00	0.079
D	1.00	0.040

**PINNING INFORMATION**

PIN	SIMPLIFIED OUTLINE	SYMBOL
Pin1 Cathode Pin2 Anode		



*beyond boundaries...*

**ALPSL110**  
**SOD-123S (MINI SMA)**

**CUSTOMER NOTE:**

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2. In Europe, please dispose as per EU Directive 2002/96/EC on Waste Electrical and Electronic Equipment (WEEE).



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