

SURFACE MOUNT SCHOTTKY BARRIER RECTIFIER

DESCRIPTION:



The ALPSSXX Series (ALPSS32, ALPSS33, ALPSS34, ALPSS35, ALPSS36) is Surface Mount Schottky Barrier Rectifier are low profile package, Ideal for automated placement and Guarding for overvoltage protection. Use in low voltage high frequency inverters, freewheeling, DC/DC converters, and polarity protection applications.

FEATURES:

- Low profile package
- Ideal for automated placement
- Guarding for overvoltage protection
- Low power losses, high efficiency
- Low forward voltage drop
- High surge capability
- Meets MSL level 1, per J-STD-020, LF maximum peak of 260 °C
- Halogen Free
- RoHS Compliant
- REACH Compliant

APPLICATIONS:

- Low voltage high frequency inverters
- Freewheeling
- DC/DC converters
- Polarity protection applications.

PRIMARY CHARACTERISTICS

Package	SMC (DO-214AB)
$I_{F(AV)}$	3.0 A
V_{RRM}	20V, 30V, 40V, 50V, 60V
I_{FSM}	100 A
EAS	20 mJ
V_F	0.5 V, 0.75 V
T_J max.	150 °C
Circuit configuration	Single

TYPICAL DEVICE CHARACTERISTICS

MAXIMUM RATINGS ($T_A = 25\text{ }^{\circ}\text{C}$ unless otherwise noted)							
PARAMETER	SYMBOL	ALPSS32	ALPSS33	ALPSS34	ALPSS35	ALPSS36	UNIT
Maximum repetitive peak reverse voltage	V_{RRM}	20	30	40	50	60	V
Maximum RMS voltage	V_{RMS}	14	21	28	35	42	V
Maximum DC blocking voltage	V_{DC}	20	30	40	50	60	V
Maximum average forward rectified current at T_L (fig. 1)	$I_{F(AV)}$	3.0					A
Peak forward surge current 8.3 ms single half sine-wave superimposed on rated load	I_{FSM}	100					A
Non-repetitive avalanche energy at $T_A = 25\text{ }^{\circ}\text{C}$, $I_{AS} = 2.0\text{ A}$, $L = 10\text{ mH}$	E_{AS}	20					mJ
Voltage rate of change (rated V_R)	dV/dt	10 000					V/ μs
Operating junction temperature range	T_J	-55 to +150					$^{\circ}\text{C}$
Storage temperature range	T_{STG}	-55 to +150					$^{\circ}\text{C}$

ELECTRICAL CHARACTERISTICS (T _A = 25 °C unless otherwise noted)								
PARAMETER	TEST CONDITIONS	SYMBOL	ALPSS32	ALPSS33	ALPSS34	ALPSS35	ALPSS36	UNIT
Maximum instantaneous forward voltage ⁽¹⁾	3.0 A	V _F	0.5			0.75		V
Maximum DC reverse current at rated DC blocking voltage ⁽¹⁾	T _A = 25 °C	I _R	0.5				10	mA
	T _A = 100 °C		20					
Note: ⁽¹⁾ Pulse test: 300 μs pulse width, 1 % duty cycle								

THERMAL CHARACTERISTICS (T _A = 25 °C unless otherwise noted)							
PARAMETER	SYMBOL	ALPSS32	ALPSS33	ALPSS34	ALPSS35	ALPSS36	UNIT
Typical thermal resistance ⁽¹⁾	R _{θJA}	55					°C/W
	R _{θJL}	17					

Note:
⁽¹⁾ PCB mounted with 0.55" x 0.55" (14 mm x 14 mm) copper pad areas

TYPICAL DEVICE CHARACTERISTICS CURVES

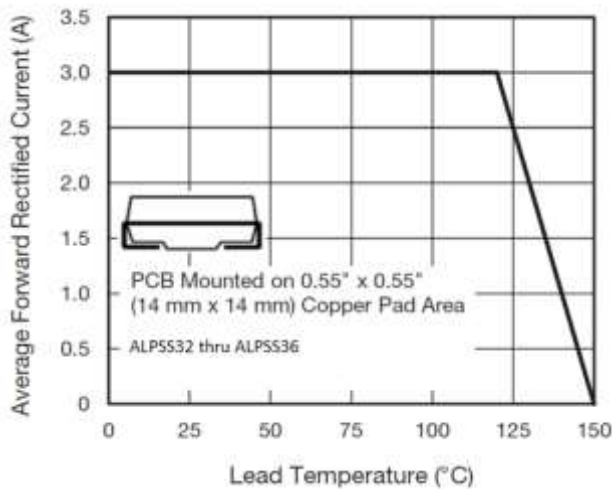


Fig1. Forward Current Derating Curve

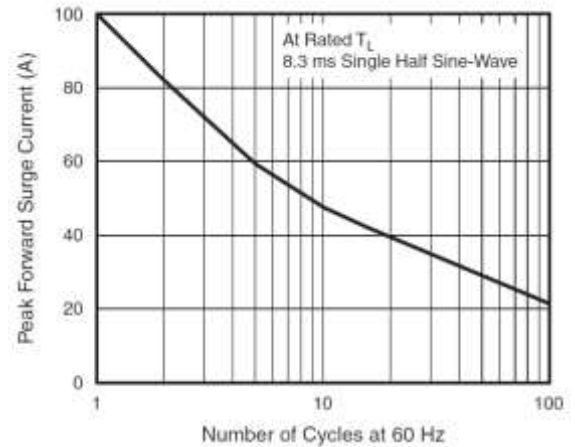


Fig2. Maximum Non-Repetitive Peak Forward Surge Current

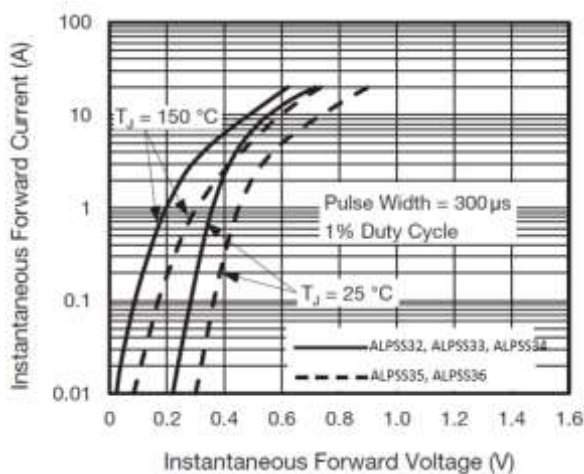


Fig3. Typical Instantaneous Forward Characteristics

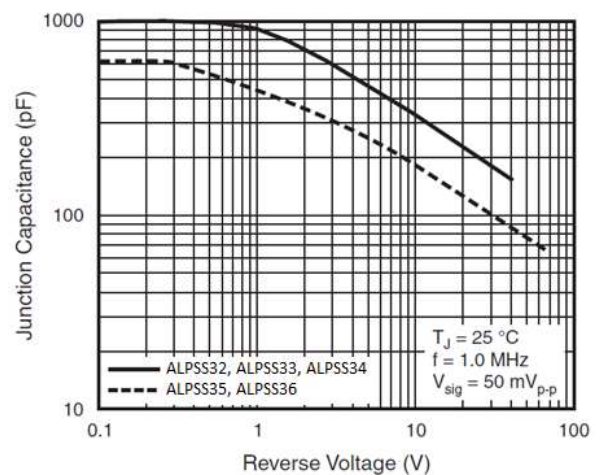


Fig4. Typical Junction Capacitance

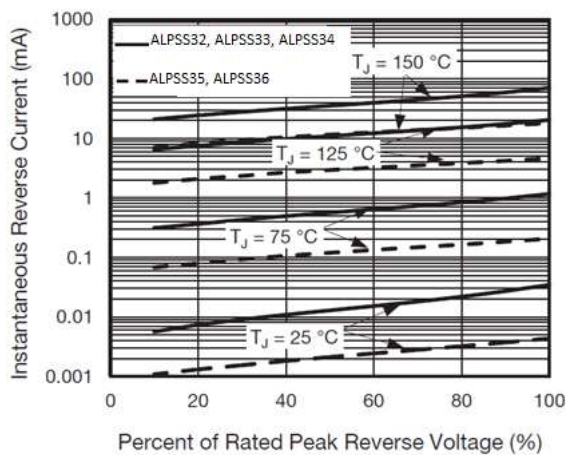


Fig5. Typical Reverse Current Characteristics

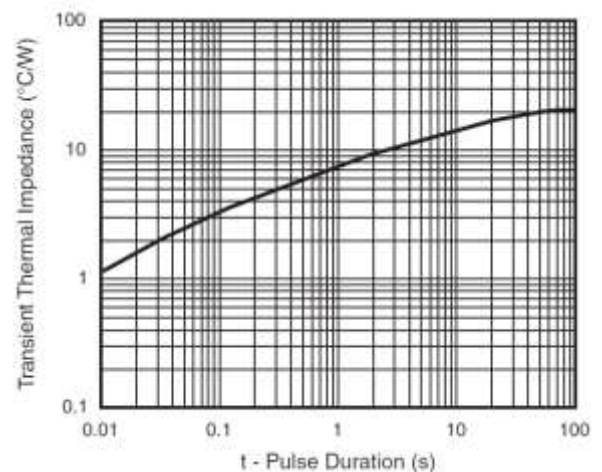


Fig6. Typical Transient Thermal Impedance

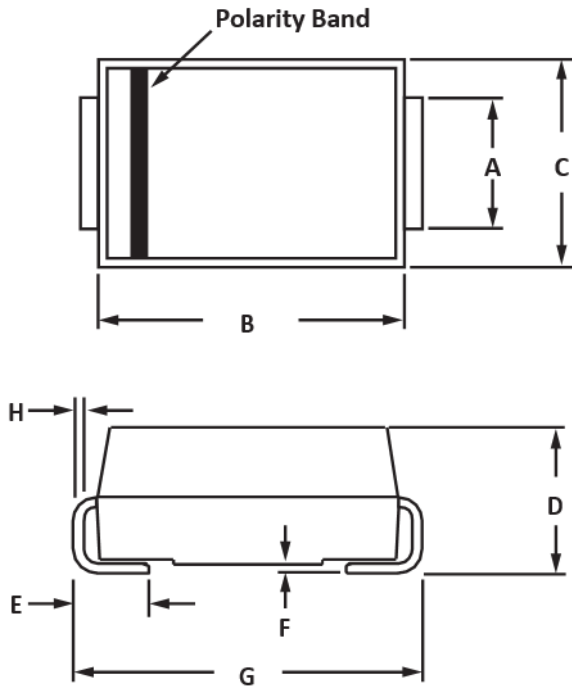


beyond boundaries...

ALPSSXX Series DO-214AB (SMC)

PACKAGE INFORMATION

DO-214AB (SMC)



OUTLINE DIMENSIONS

DIM	MILLIMETERS		INCHES	
	MIN	MAX	MIN	MAX
A	2.90	3.20	0.114	0.126
B	6.60	7.11	0.260	0.280
C	5.59	6.22	0.220	0.246
D	2.06	2.62	0.079	0.103
E	0.76	1.52	0.030	0.060
F	-	0.2	-	0.008
G	7.75	8.13	0.305	0.320
H	0.152	0.305	0.006	0.012

NOTES

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

PAD LAYOUT DIMENSIONS

DIM	MILLIMETERS		INCHES	
	MIN	MAX	MIN	MAX
A	3.20	-	0.126	-
B	1.52	-	0.060	-
C	-	4.69	-	0.185
D	1.52	-	0.060	-



beyond boundaries...

ALPSSXX Series
DO-214AB (SMC)

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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