

Low V_F Surface Mount Schottky Rectifier


DO-214AC (SMA)
FEATURES

- Low profile package
- Ideal for automated placement
- Guardring for overvoltage protection
- Low power losses, high efficiency
- Very low forward voltage drop
- High surge capability
- Meets MSL level 1, per J-STD-020C, LF max peak of 260 °C
- Solder Dip 260 °C, 40 seconds
- Component in accordance to RoHS 2002/95/EC and WEEE 2002/96/EC


MAJOR RATINGS AND CHARACTERISTICS

$I_{F(AV)}$	1.5 A
V_{RRM}	20 V, 30 V
I_{FSM}	50 A
V_F	0.34 V
T_j max.	125 °C

TYPICAL APPLICATIONS

For use in low voltage, high frequency inverters, free-wheeling, dc-to-dc converters, and polarity protection applications.

MECHANICAL DATA

Case: DO-214AC (SMA)

Epoxy meets UL 94V-0 flammability rating

Terminals: Matte tin plated leads, solderable per J-STD-002B and JESD22-B102D

E3 suffix for commercial grade, HE3 suffix for high reliability grade (AEC Q101 qualified)

Polarity: Color band denotes the cathode end

MAXIMUM RATINGS ($T_A = 25$ °C unless otherwise noted)

PARAMETER	SYMBOL	SL12	SL13	UNIT
Device marking code		SL2	SL3	
Maximum repetitive peak reverse voltage	V_{RRM}	20	30	V
Maximum RMS voltage	V_{RMS}	14	21	V
Maximum DC blocking voltage	V_{DC}	20	30	V
Maximum average forward rectified current at $T_L = 105$ °C (Fig. 1)	$I_{F(AV)}$	1.5		A
Peak forward surge current 8.3 ms single half sine-wave superimposed on rated load	I_{FSM}	50		A
Voltage rate of change (rated V_R)	dv/dt	10000		V/ μ s
Operating junction temperature range	T_J	- 55 to + 125		°C
Storage temperature range	T_{STG}	- 55 to + 150		°C

ELECTRICAL CHARACTERISTICS ($T_A = 25\text{ }^\circ\text{C}$ unless otherwise noted)					
PARAMETER	TEST CONDITIONS	SYMBOL	SL12	SL13	UNIT
Maximum instantaneous forward voltage at ⁽¹⁾	$I_F = 0.1\text{ A}$, $T_A = 125\text{ }^\circ\text{C}$	V_F	0.230		V
	$I_F = 0.1\text{ A}$, $T_A = 25\text{ }^\circ\text{C}$		0.360		
	$I_F = 1.0\text{ A}$, $T_A = 125\text{ }^\circ\text{C}$		0.340		
	$I_F = 1.0\text{ A}$, $T_A = 25\text{ }^\circ\text{C}$		0.445		
Maximum DC reverse current at rated DC blocking voltage ⁽¹⁾	$T_A = 25\text{ }^\circ\text{C}$	I_R	0.2		mA
	$T_A = 100\text{ }^\circ\text{C}$		6.0		

Note:

(1) Pulse test: 300 μs pulse width, 1 % duty cycle

THERMAL CHARACTERISTICS ($T_A = 25\text{ }^\circ\text{C}$ unless otherwise noted)				
PARAMETER	SYMBOL	SL12	SL13	UNIT
Maximum thermal resistance ⁽¹⁾	$R_{\theta JA}$	88		$^\circ\text{C/W}$
	$R_{\theta JL}$	28		

Note:

(1) P.C.B. mounted on 0.2 x 0.2" (5.0 x 5.0 mm) copper pad areas

ORDERING INFORMATION (Example)				
PREFERRED P/N	UNIT WEIGHT (g)	PREFERRED PACKAGE CODE	BASE QUANTITY	DELIVERY MODE
SL13-E3/61T	0.064	61T	1800	7" Diameter Plastic Tape & Reel
SL13-E3/5AT	0.064	5AT	7500	13" Diameter Plastic Tape & Reel
SL13HE3/61T ⁽¹⁾	0.064	61T	1800	7" Diameter Plastic Tape & Reel
SL13HE3/5AT ⁽¹⁾	0.064	5AT	7500	13" Diameter Plastic Tape & Reel

Note:

(1) Automotive grade AEC Q101 qualified

RATINGS AND CHARACTERISTICS CURVES

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

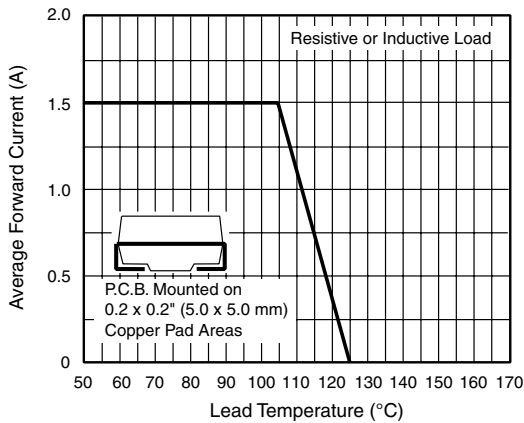


Figure 1. Forward Current Derating Curve

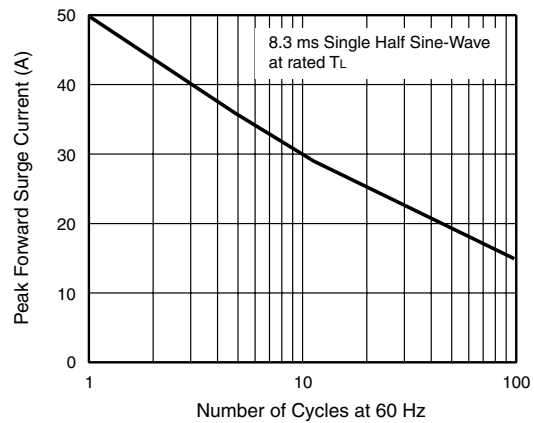


Figure 2. Maximum Non-Repetitive Peak Forward Surge Current

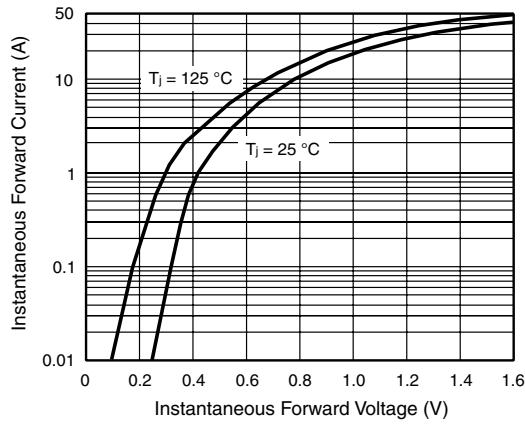


Figure 3. Typical Instantaneous Forward Characteristics

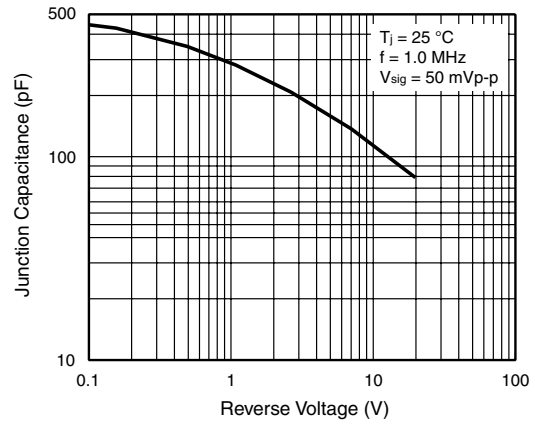


Figure 5. Typical Junction Capacitance

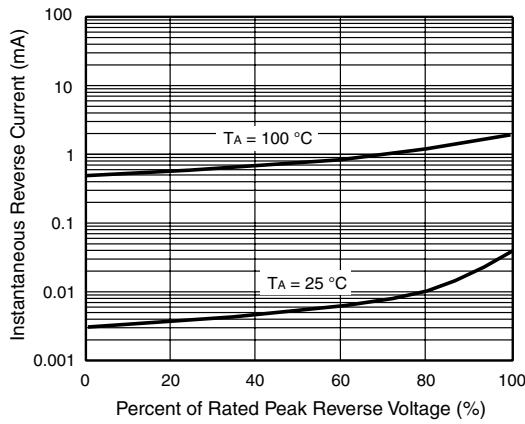
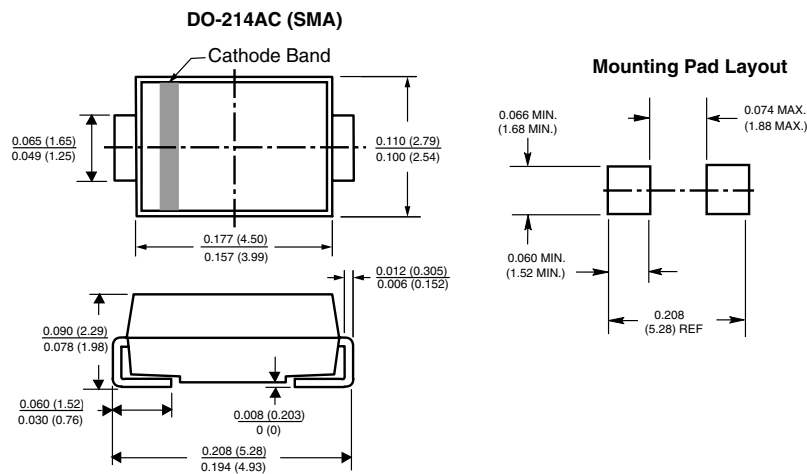


Figure 4. Typical Reverse Characteristics

PACKAGE OUTLINE DIMENSIONS in inches (millimeters)





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