



### 3.0Amp. Surface Mount Schottky Barrier Diodes

# CSMA320-3100SA Series

## Features

- For surface mounted applications.
- For use in low voltage, high frequency inverters, free wheeling, and polarity protection applications
- Plastic material used carries Underwriters Laboratory Flammability Classification 94V-0
- Low leakage current
- High surge capability
- High temperature soldering: 250°C/10 seconds at terminals
- Exceeds environmental standards of MIL-S-19500/228

## Mechanical Data

- Case: SMA/DO-214AC molded plastic.
- Terminals: Solder plated, solderable per MIL-STD-750 method 2026
- Polarity: Indicated by cathode band.
- Packaging: 12mm tape per EIA STD RS-481.
- Weight: 0.064 gram, 0.002 ounce

## Maximum Ratings and Electrical Characteristics

(Rating at 25°C ambient temperature unless otherwise specified. )

Parameter	Symbol	Type							Units
		CSMA 320	CSMA 330	CSMA 340	CSMA 350	CSMA 360	CSMA 380	CSMA 3100	
Repetitive peak reverse voltage	V <sub>RRM</sub>	20	30	40	50	60	80	100	V
Maximum RMS voltage	V <sub>RMS</sub>	14	21	28	35	42	56	70	V
Maximum DC blocking voltage	V <sub>R</sub>	20	30	40	50	60	80	100	V
Maximum instantaneous forward voltage, IF=3A (Note 1)	V <sub>F</sub>	0.5	0.5	0.5	0.75	0.75	0.85	0.85	V
Average forward rectified current	I <sub>O</sub>	3							A
Peak forward surge current @8.3ms single half sine wave superimposed on rated load (JEDEC method)	I <sub>FSM</sub>	80							A
Maximum DC reverse current V <sub>R</sub> =V <sub>RRM</sub> , T <sub>A</sub> =25°C (Note 1) V <sub>R</sub> =V <sub>RRM</sub> , T <sub>A</sub> =125°C (Note 1)	I <sub>R</sub>	0.5 20							mA mA
Maximum thermal resistance, Junction to ambient (Note 2)	R <sub>th,JA</sub>	80 (typ)							°C/W
Diode junction capacitance @ f=1MHz and applied 4V reverse voltage	C <sub>J</sub>	250 (typ)							pF
Storage temperature	T <sub>stg</sub>	-55 ~ +150							°C
Operating temperature	T <sub>J</sub>	-55 ~ +125			-55 ~ +150				°C

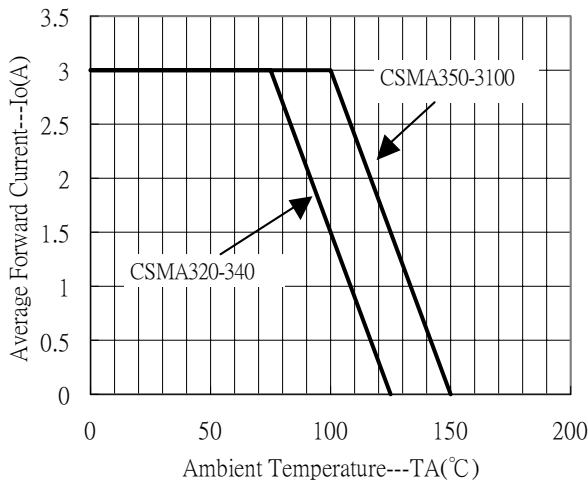
Notes : 1. Pulse test, pulse width=300 μ sec, 2% duty cycle

2. Mounted on PCB with 14mm<sup>2</sup> (0.013mm thickness) copper pad area.

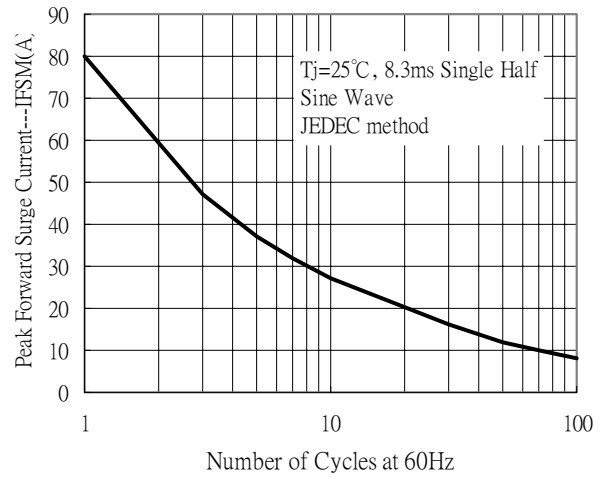


**Characteristic Curves**

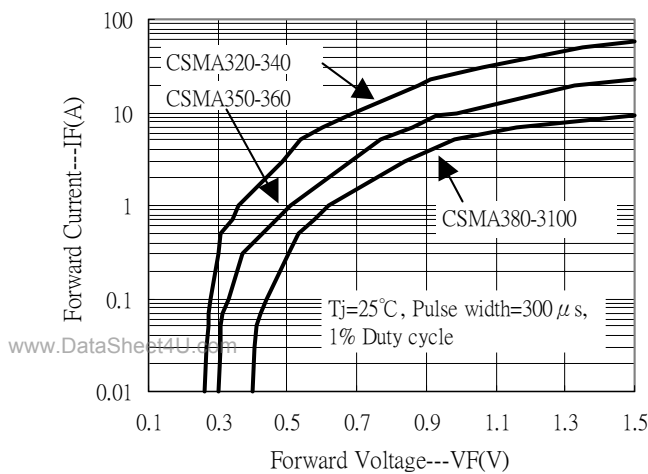
Forward Current Derating Curve



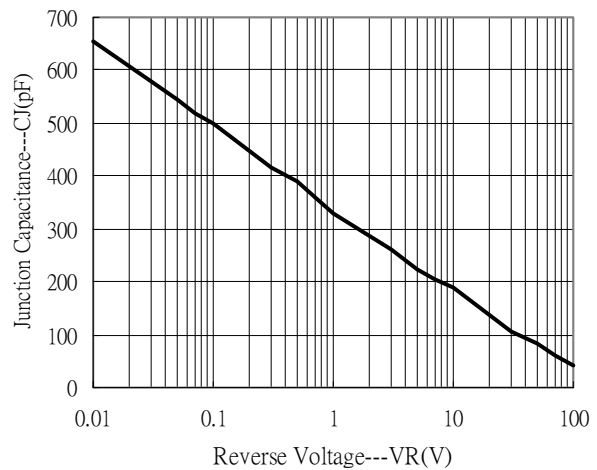
Maximum Non-Repetitive Forward Surge Current



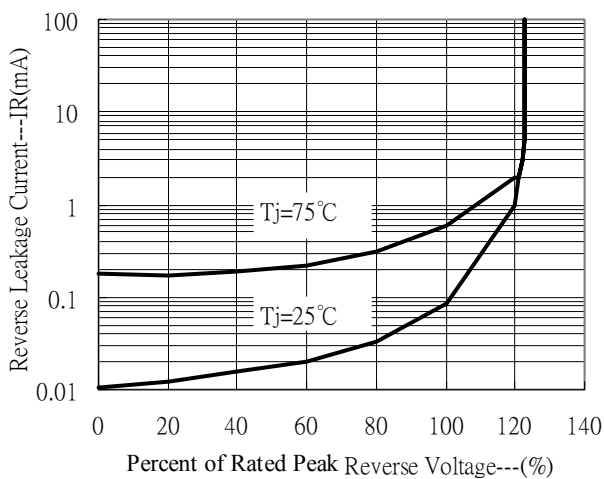
Forward Current vs Forward Voltage



Junction Capacitance vs Reverse Voltage

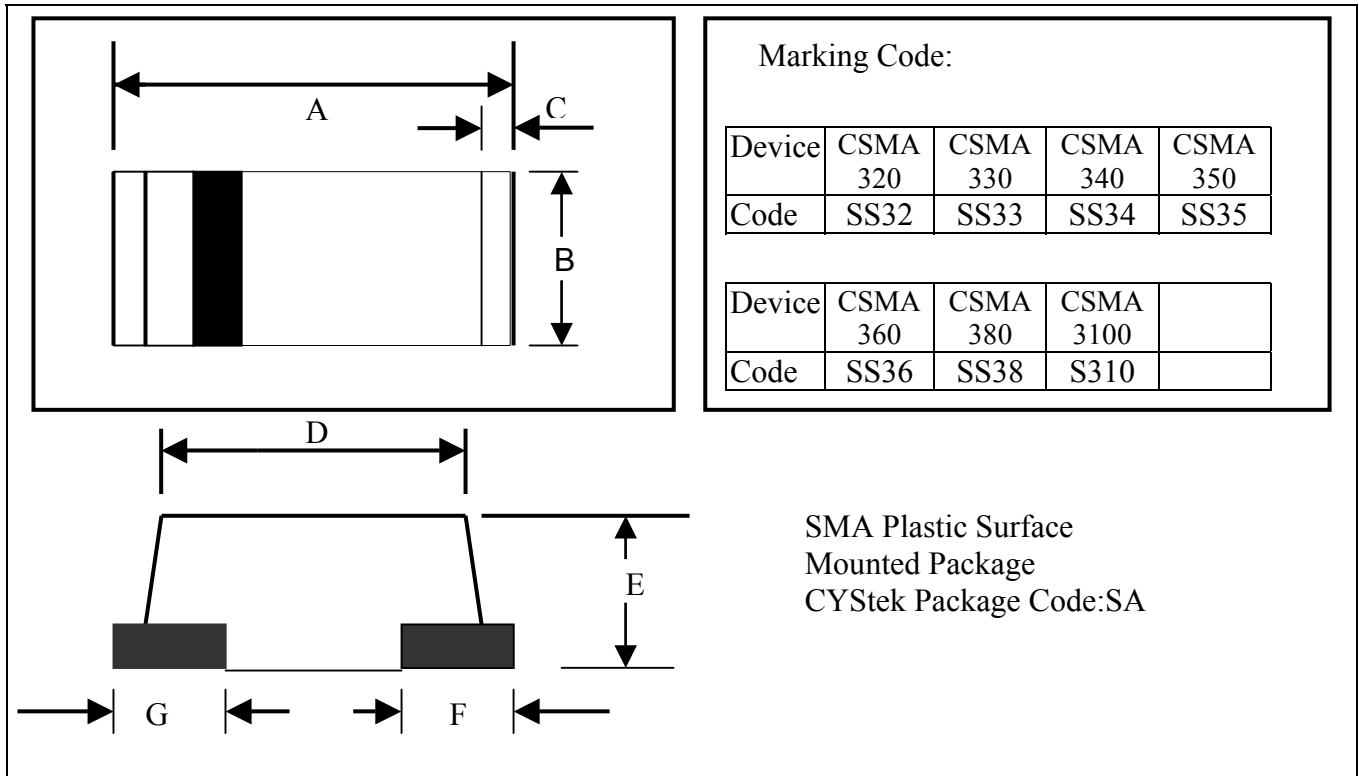


Reverse Leakage Current vs Reverse Voltage





**SMA/DO-214AC Dimension**



\*:Typical

DIM	Inches		Millimeters		DIM	Inches		Millimeters	
	Min.	Max.	Min.	Max.		Min.	Max.	Min.	Max.
A	0.177	0.185	4.4	4.8	E	0.060	0.067	1.5	1.7
B	0.094	0.110	2.4	2.8	F	0.04(typ)		1.0(typ)	
C	0.012(typ)		0.3(typ)		G	0.04(typ)		1.0(typ)	
D	0.150	0.165	3.8	4.2	-	-	-	-	-

Notes : 1.Controlling dimension : millimeters.  
 2.Maximum lead thickness includes lead finish thickness, and minimum lead thickness is the minimum thickness of base material.  
 3.If there is any question with packing specification or packing method, please contact your local CYStek sales office.

**Material :**

- Lead : 42 Alloy ; solder plating
- Mold Compound : Epoxy resin family, flammability solid burning class:UL94V-0

**Important Notice:**

- All rights are reserved. Reproduction in whole or in part is prohibited without the prior written approval of CYStek.
- CYStek reserves the right to make changes to its products without notice.
- CYStek **semiconductor products are not warranted to be suitable for use in Life-Support Applications, or systems.**
- CYStek assumes no liability for any consequence of customer product design, infringement of patents, or application assistance.