



# 1.0Amp. Surface Mount Schottky Barrier Diodes

## CSMA581XSA 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: 0.05 gram, 0.0015 ounce

### Maximum Ratings and Electrical Characteristics

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

Parameter	Conditions	Symbol	Type			Units
			CSMA 5817	CSMA 5818	CSMA 5819	
			min	typ	max	
Repetitive peak reverse voltage		$V_{RRM}$	20	30	40	V
Maximum RMS voltage		$V_{RMS}$	14	21	28	V
Maximum DC blocking voltage		$V_R$	20	30	40	V
Maximum instantaneous forward voltage	$I_F=3A$ (Note 1)	$V_F$	0.475	0.500	0.525	V
Maximum average forward rectified current		$I_O$	1			A
Peak forward surge current	8.3ms single half sine wave superimposed on rated load(JEDEC method)	$I_{FSM}$	30			A
Maximum DC reverse current	$V_R=V_{RRM}, T_A=25^\circ C$ (Note 1)	$I_R$	0.5			mA
	$V_R=V_{RRM}, T_A=100^\circ C$ (Note 1)		10			mA
Maximum thermal resistance	Junction to ambient(Note 2)	$R_{th,JA}$	80			°C/w
Diode junction capacitance	f=1MHz and applied 4V reverse voltage	$C_J$	130			pF
Storage temperature		$T_{stg}$	-55~+150			°C
Operating temperature		$T_J$	-55~+125			°C

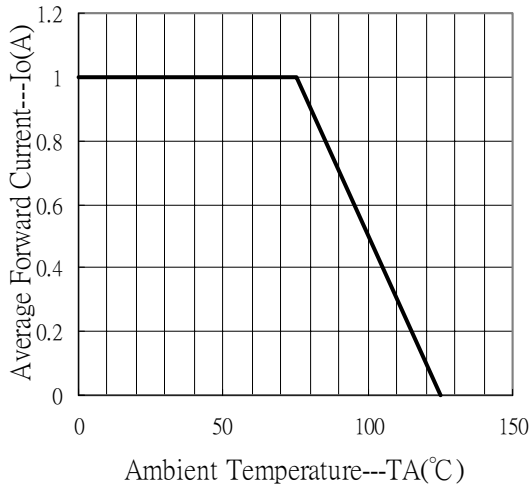
Notes: 1. Pulse test, pulse width=300  $\mu$  sec, 2% duty cycle

2. Mounted on PCB with 5.0mm<sup>2</sup> (0.013mm thickness) copper pad area.

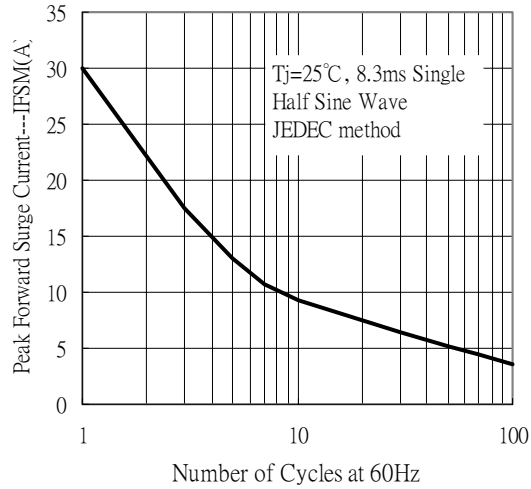


### Characteristic Curves

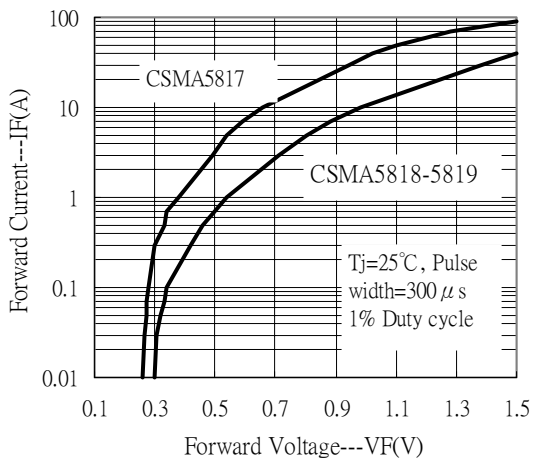
Forward Current Derating Curve



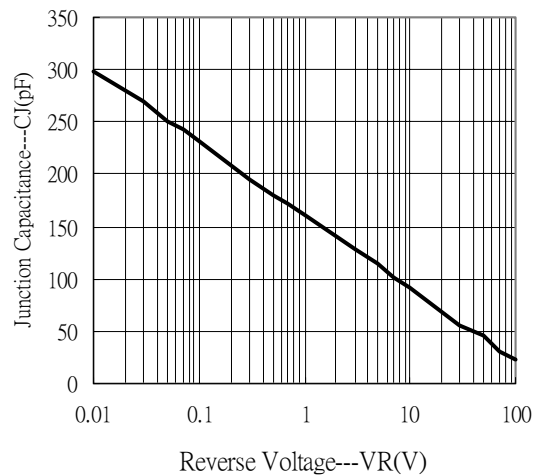
Maximum Non-Repetitive Forward Surge Current



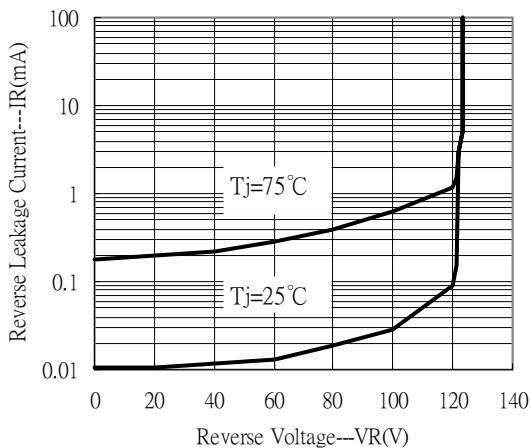
Forward Current vs Forward Voltage



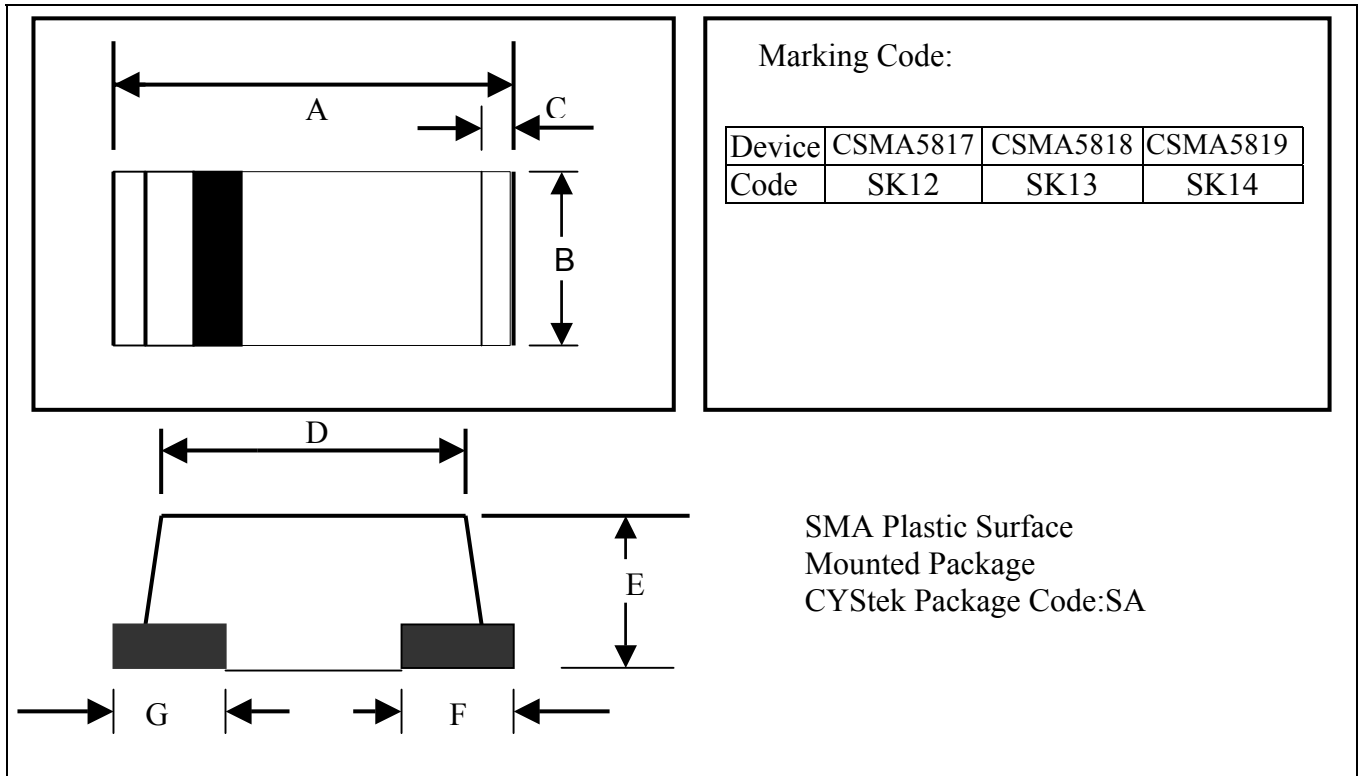
Junction Capacitance vs Reverse Voltage



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

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