



## 1.0Amp. Surface Mount Fast Recovery Diodes

# CFR10XSF Series

### Features

- For surface mounted 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: Molded plastic, JEDEC SOD-123/Mini SMA.
- Terminals: Solder plated, solderable per MIL-STD-750 method 2026
- Polarity: Indicated by cathode band.
- Packaging: 12mm tape per EIA STD RS-481.
- Weight: 0.04 gram

### Maximum Ratings and Electrical Characteristics

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

Parameter	Symbol	Type							Units
		CFR 101	CFR 102	CFR 103	CFR 104	CFR 105	CFR 106	CFR 107	
Repetitive peak reverse voltage	V <sub>RRM</sub>	50	100	200	400	600	800	1000	V
Maximum RMS voltage	V <sub>RMS</sub>	35	70	140	280	420	560	700	V
Maximum DC blocking voltage	V <sub>R</sub>	50	100	200	400	600	800	1000	V
Maximum instantaneous forward voltage, I <sub>F</sub> =1A (Note 1)	V <sub>F</sub>	1.3	1.3	1.3	1.3	1.3	1.3	1.3	V
Reverse Recovery Time	t <sub>rr</sub>	150	150	150	150	250	500	500	ns
Average forward rectified current @T <sub>A</sub> =55°C	I <sub>O</sub>	1							A
Peak forward surge current @8.3ms single half sine wave superimposed on rated load (JEDEC method)	I <sub>FSM</sub>	30							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> =100°C (Note 1)	I <sub>R</sub>	5 100							μA μA
Maximum thermal resistance, Junction to ambient	R <sub>th,JA</sub>	42 (typ)							°C/W
Diode junction capacitance (Note 2)	C <sub>J</sub>	15 (typ)							pF
Storage temperature	T <sub>stg</sub>	-55 ~ +150							°C
Operating temperature	T <sub>J</sub>	-55 ~ +150							°C

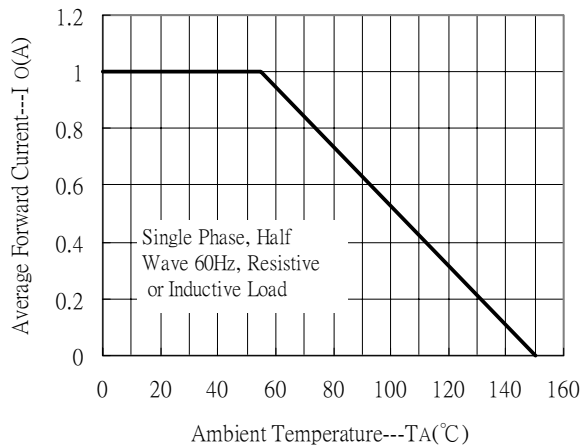
Notes : 1. Pulse test, pulse width=300 μ sec, 2% duty cycle

2. f=1MHz and applied 4.0V<sub>DC</sub> reverse voltage.

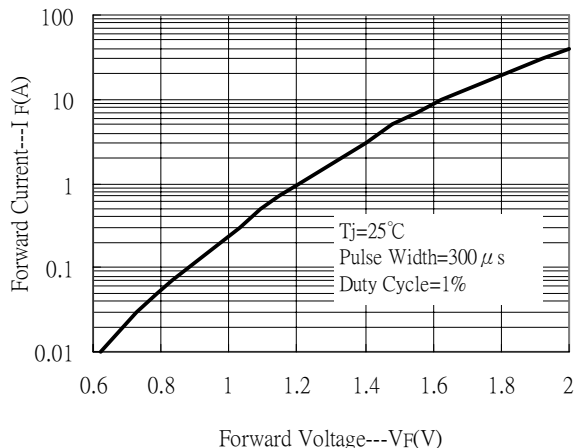


## Characteristic Curves

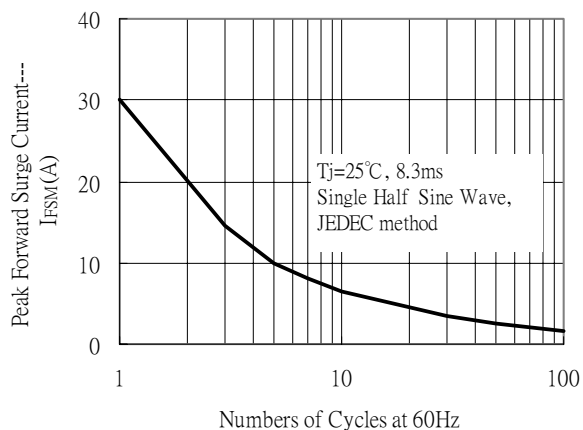
Forward Current Derating Curve



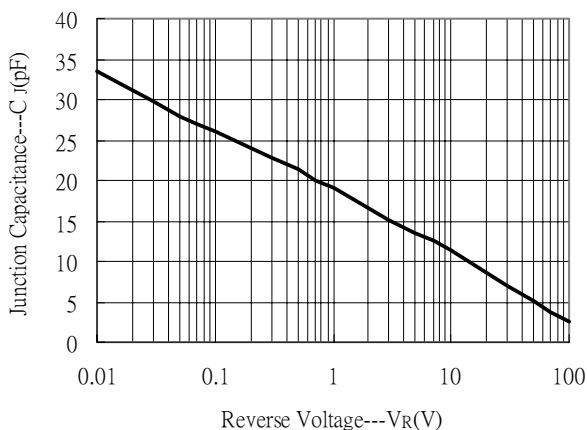
Forward Current vs Forward Voltage



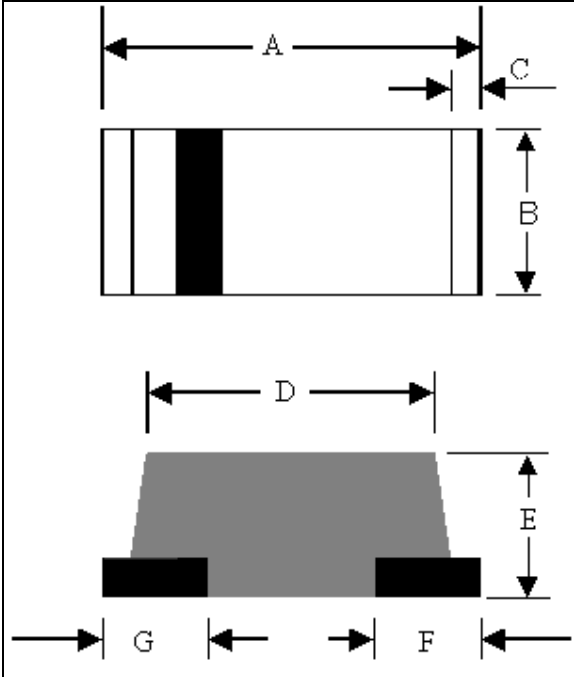
Maximum Non-Repetitive Forward Surge Current



Junction Capacitance vs Reverse Voltage



**SOD-123 Dimension**



The diagram shows three views of an SOD-123 package: a top view with dimensions A (total length) and C (lead length), a side view with dimension B (height), and a perspective view with dimensions D (lead length), E (height), G (lead width), and F (lead thickness).

Marking Code:

Device	CFR 101	CFR 102	CFR 103	CFR 104
Code	F11	F12	F13	F14

Device	CFR 105	CSFR 106	CSFR 107	
Code	F15	F16	F17	

SOD-123 Plastic Surface Mounted Package  
CYStek Package Code: SF

\*:Typical

DIM	Inches		Millimeters		DIM	Inches		Millimeters	
	Min.	Max.	Min.	Max.		Min.	Max.	Min.	Max.
A	0.146	0.161	3.7	4.1	E	0.055	0.063	1.4	1.6
B	0.055	0.071	1.4	1.8	F	0.035(typ)		0.9(typ)	
C	0.012(typ)		0.3(typ)		G	0.035(typ)		0.9(typ)	
D	0.094	0.110	2.4	2.8	-	-	-	-	-

**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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