



1.0Amp. Surface Mount Ultra Fast Recovery Diodes

CSFR10XSF 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

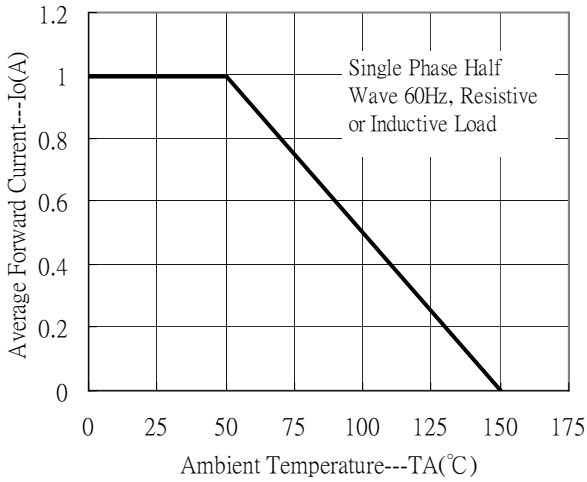
(Rating at 25°C ambient temperature unless otherwise specified.)

Parameter	Symbol	Type							Units
		CSFR 101	CSFR 102	CSFR 103	CSFR 104	CSFR 105	CSFR 106	CSFR 107	
Repetitive peak reverse voltage	V _{RRM}	50	100	200	300	400	600	800	V
Maximum RMS voltage	V _{RMS}	35	70	140	210	280	420	560	V
Maximum DC blocking voltage	V _R	50	100	200	300	400	600	800	V
Maximum instantaneous forward voltage, I _F =1A (Note 1)	V _F	1	1	1	1.3	1.3	1.7	1.7	V
Reverse Recovery Time	t _{rr}	50	50	50	50	50	75	75	ns
Average forward rectified current @T _A =50°C	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°C (Note 1) V _R =V _{RRM} , T _A =125°C (Note 1)	I _R	5 150							μA μA
Maximum thermal resistance, Junction to ambient	R _{th,JA}	42 (typ)							°C/W
Diode junction capacitance (Note 2)	C _J	20 (typ)							pF
Storage temperature	T _{stg}	-55 ~ +150							°C
Operating temperature	T _J	-55 ~ +150							°C

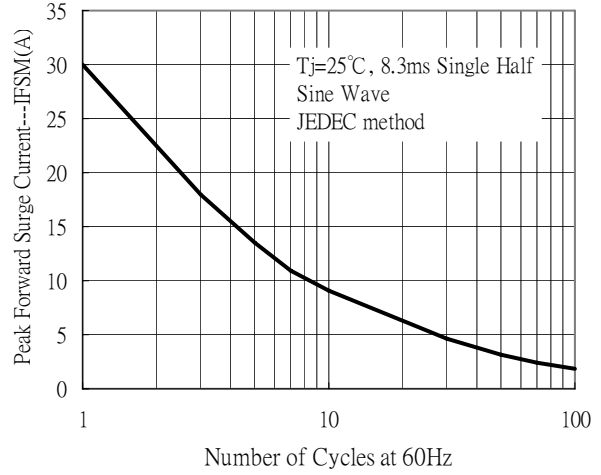
Notes : 1. Pulse test, pulse width=300 μ sec, 2% duty cycle
 2. f=1MHz and applied 4.0V_{DC} reverse voltage.

Characteristic Curves

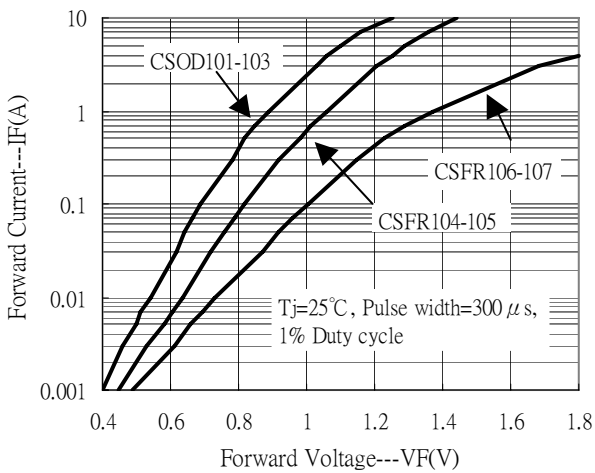
Forward Current Derating Curve



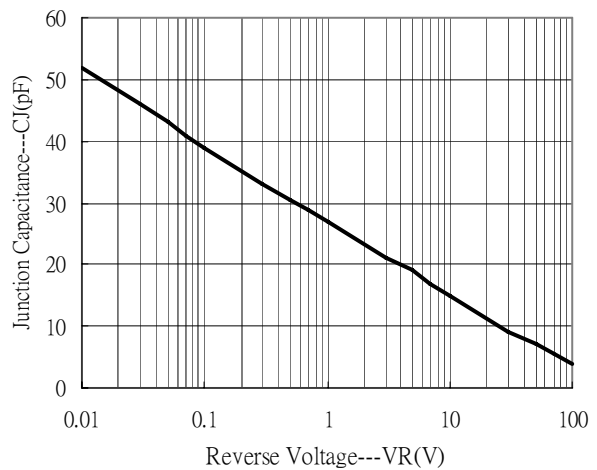
Maximum Non-Repetitive Forward Surge Current



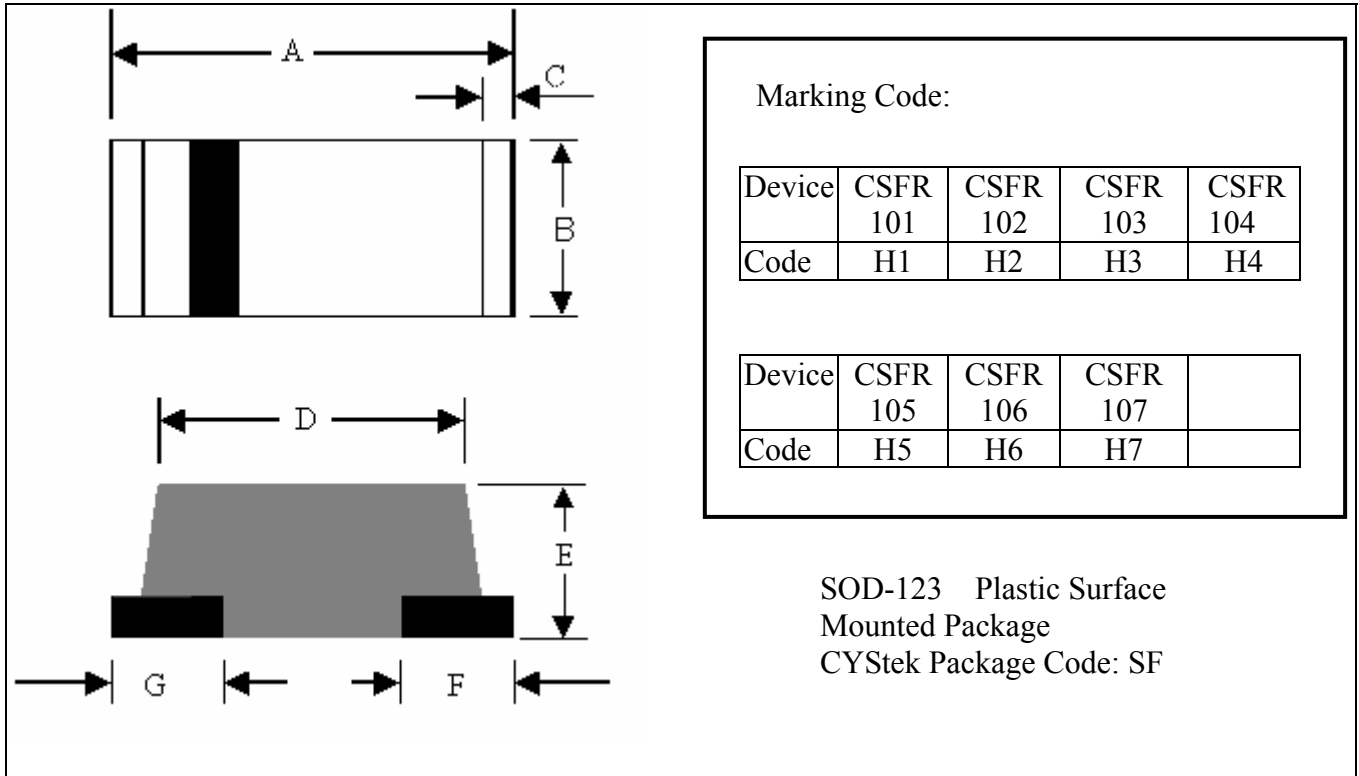
Forward Current vs Forward Voltage



Junction Capacitance vs Reverse Voltage



SOD-123 Dimension



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	0.138	0.154	3.5	3.9	E	0.051	0.067	1.3	1.7
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	0.110	0.126	2.8	3.2	-	-	-	-	-

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.