FR101WS THRU FR107WS

Surface mount fast recovery rectifiers

Features

- Low profile package
- Ideal for automated placement
- Glass passivated chip junctions
- Low forward voltage drop
- Low leakage current
- High forward surge capability
- High temperature soldering：
  260℃/10 seconds at terminals
- Component in accordance to
  RoHS 2011/65/EU and WEEE 2002/96/EC

SOD-323

RoHS COMPLIANT

1.Cathode
2.Anode

Mechanical Date

- **Case:** SOD-323
  Molding compound meets
  UL 94 V-0 flammability rating
- **Terminals:** Solder plated, solderable per
  MIL-STD-750， Method 2026
- **Polarity:**Laser band denotes cathode end

Major Ratings and Characteristics

$I_{F(AV)}$	1.0A
V_{RRM}	50V to 1000V
I_{FSM}	25A
t_{rr}	150nS,250nS,500nS
V_F	1.3V
$T_J$max.	150°C

Maximum Ratings & Thermal Characteristics (T_A = 25 °C unless otherwise noted)

Item	Symbol	FR101WS	FR102WS	FR103WS	FR104WS	FR105WS	FR106WS	FR107WS	Unit
Marking code		**F1**	**F2**	**F3**	**F4**	**F5**	**F6**	**F7**	
Maximum repetitive peak reverse voltage	V_{RRM}	50	100	200	400	600	800	1000	V
Maximum RMS voltage	V_{RMS}	35	70	140	280	420	560	700	V
Maximum DC blocking voltage	V_{DC}	50	100	200	400	600	800	1000	V
Maximum average forward rectified current at T_L=105°C	$I_{F(AV)}$	1.0							A
Peak forward surge current 8.3 ms single half sine-wave superimposed on rated load	I_{FSM}	25							A
Operating and storage temperature range	T_J， T_{STG}	–55 to +150							℃
Thermal resistance from junction to lead (1)	$R_{\theta JL}$	35							°C/W

Electrical Characteristics (T_A = 25 °C unless otherwise noted)

Item	Test conditions		Symbol	FR101WS~FR104WS	FR105WS	FR106WS~FR107WS	Unit
Instantaneous forward voltage	I_F=1.0A(2)		V_F	1.3			V
Maximum reverse current	V_R=V_{DC}	T_J=25°C	I_R	5.0			μA
		T_J=125°C		50			
Reverse recovery time	I_F=0.5A I_R=1.0A,I_{rr}=0.25A		t_{rr}	150	250	500	nS

Note1:Mounted on PCB with 0.2x0.2" (5.0mmx5.0mm) copper pad areas

2.Pulsetest：300μs pulse width,1% duty

Fig.1 Forward Current Derating Curve

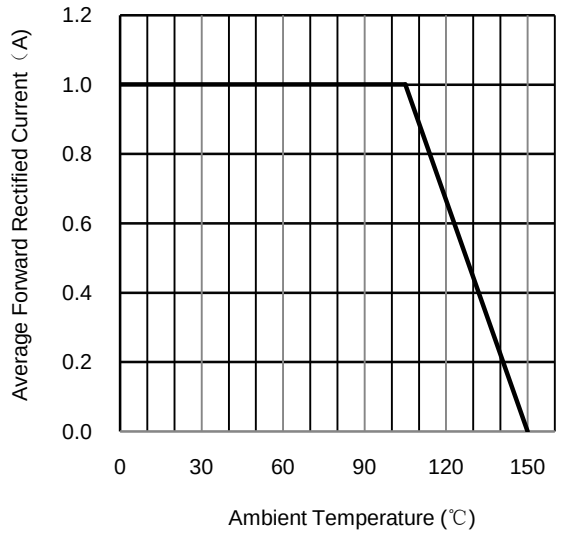


Fig.2 Maximum Non-Repetitive Peak Forward Surge Current

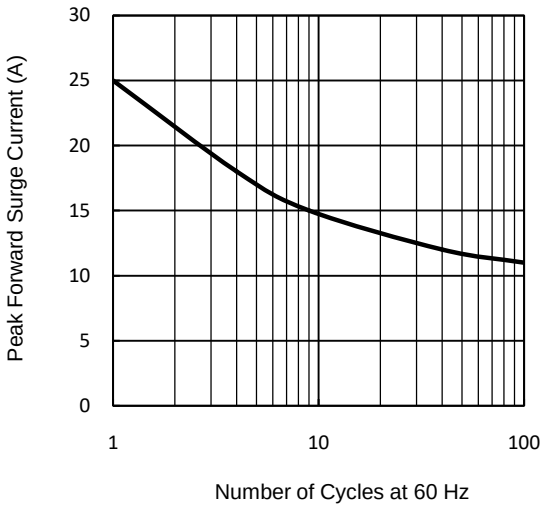


Fig.3 Typical Instantaneous Forward Characteristics

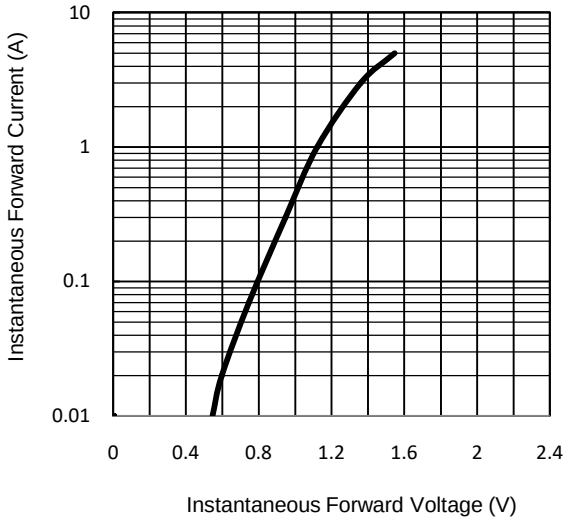
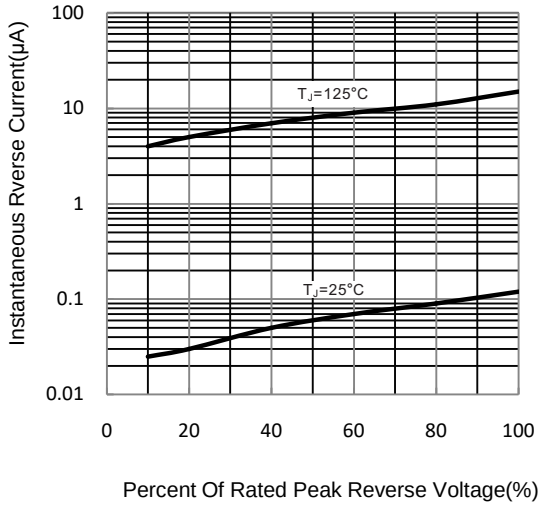
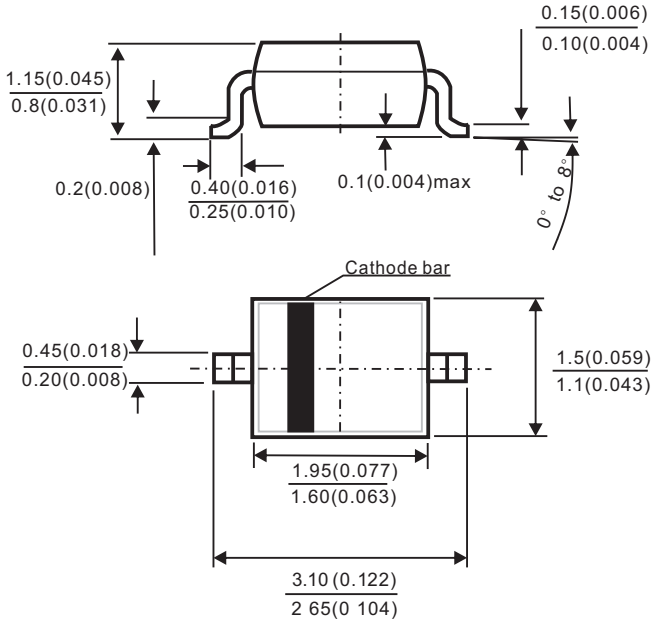


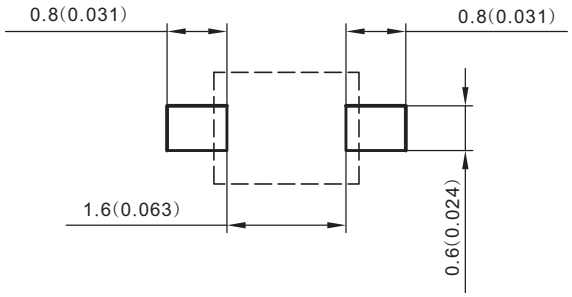
Fig.4 Typical Reverse Characteristics



SOD-323



Footprint recommendation:



Package dimensions in millimeters (inches)