DSS12U THRU DSS120U

1.0 AMP Surface Mount Schottky Barrier Rectifier

1. Features

- Low leakage current
- Schottky barrier diodes
- Low forward voltage drop.
- High current capability.
- High reliability.
- Meets MSL level 1, per J-STD-020.

SOD-123FL

Cathode ——▶|—— Anode

2. Mechanical Data

- Case:Molded Plastic,SOD-123FL.
- Epoxy:UL 94V-0 rate flame retardant.
- Terminals:Plated Leads Solderable per MIL-STD-750,Method-2026.
- Marking:marked on body.

3. Maximum Ratings and Electrical Characteristics

Electrical Characteristics Rating at 25℃ ambient temperature unless otherwise specified.

PARAMETER	SYMBOL	DSS12U	DSS13U	DSS14U	DSS15U	DSS16U	DSS18U	DSS110U	DSS115U	DSS120U	UNIT
	Code	D12U	D13U	D14U	D15U	D16U	D18U	D110U	D115U	D120U	
Maximum Recurrent Peak Reverse Voltage	V_{RRM}	20	30	40	50	60	80	100	150	200	V
Maximum RMS Voltage	V_{RMS}	14	21	28	35	42	56	70	105	140	V
Maximum DC Blocking Voltage	V_{DC}	20	30	40	50	60	80	100	150	200	V
Average Rectified Output Current	$I_{F(AV)}$	1.0									A
Peak Forward Surge Current 8.3ms @Tj=25°C Single half sine-wave superimposed @Tj=125°C on rated load (JEDEC Method)	I_{FSM}	30 24									A
I^2t Rating for Fusing (t < 8.3ms)	I^2t	3.735									A^2S
Maximum Instantaneous Forward Voltage @IF=1A	V_{FM}	0.5			0.67		0.82		0.9		V
Maximum DC reverse current @Tj=25°C at rated DC blocking voltage @Tj=100°C	I_R	0.1 10					0.05 5				mA
Typical Junction Capacitance （Note 1）	Cj	55			45		34		20		pF
Typical Thermal Resistance	$R_{\theta JA}$ $R_{\theta JL}$ $R_{\theta JC}$	115 18 10									℃/W
Operating Temperature Range	Tj	-55 to+150									℃
Storage Temperature Range	T_{STG}	-55 to+150									℃

Note：

1. Measured at 1.0 MHz and Applied reverse Voltage of 4.0V D.C

4. Rating And Characteristic Curves

Fig. 1 Forward Current Derating Curve

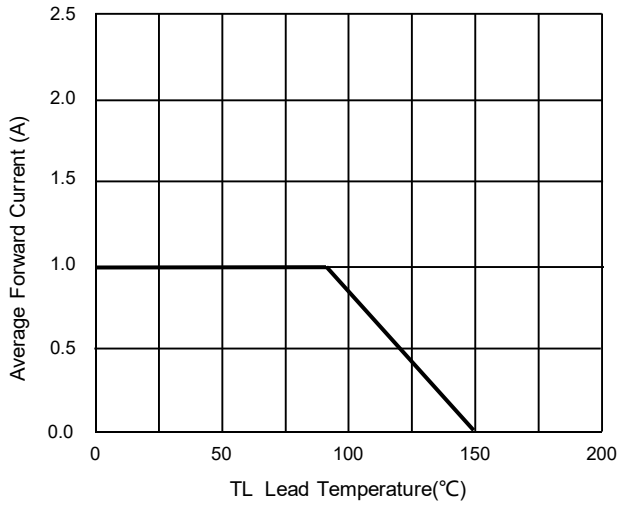


Fig. 2 Typical Forward Characteristics

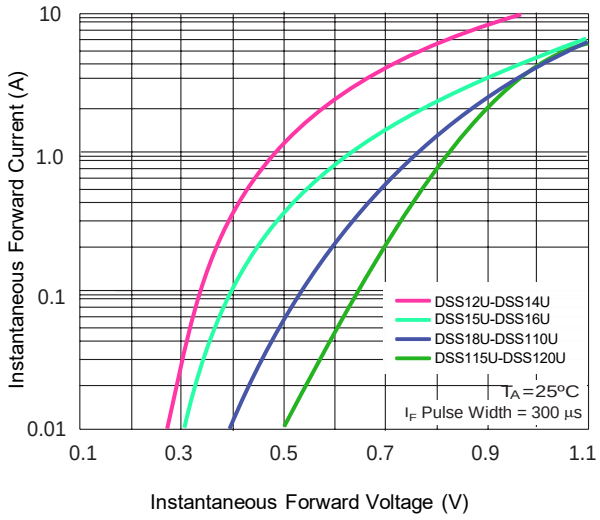


Fig. 3 Forward Surge Current Capability

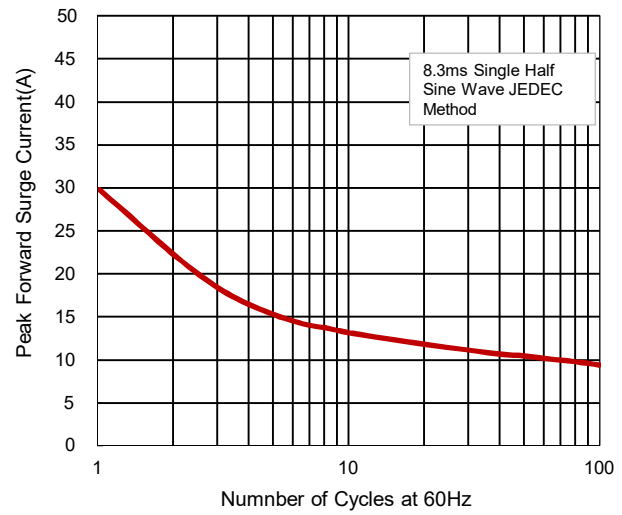
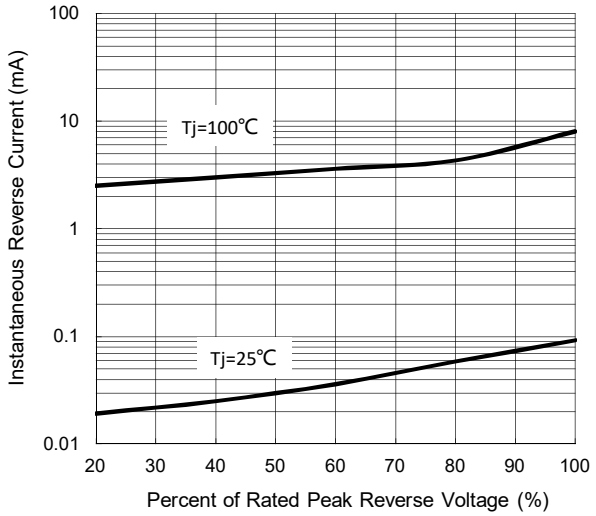
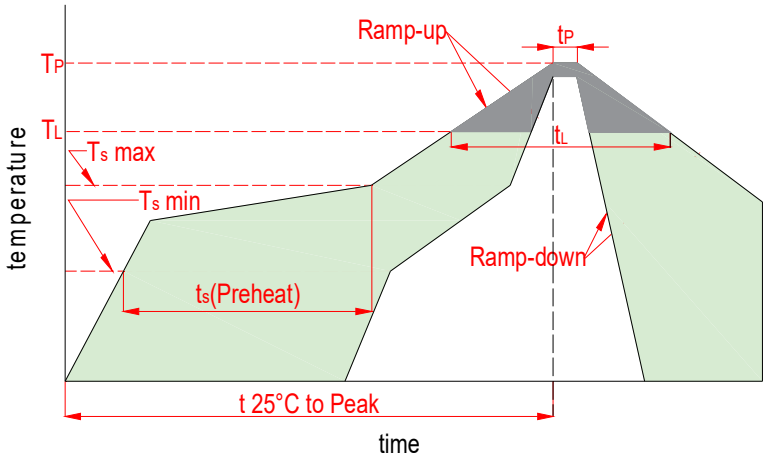


Fig.4 Typical Reverse Characteristics

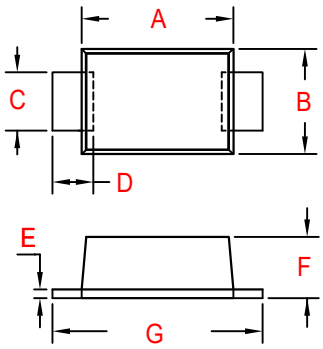


5. Soldering Parameters



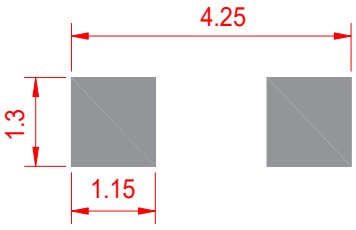
Reflow Condition		Lead-free
Pre Heat	Temp. min(T_s(min))	150℃
	Temp. max(T_s(min))	200℃
	Time(min to max)(t_s)	60~120s
Aver. ramp up rate(Liquidus Temp.)(T_L)to peak		3℃/s max
T_S(max) to T_L-Ramp-up Rate		3℃/s max
Reflow	Temp.(T_L)(Liquidus)	217℃
	Temp.(t_L)(Liquidus)	60~150s
Peak Temp.(T_P)		$260^{+0/-5}$℃
Time within actual peak Temp.(t_p)		30s max
Ramp-down Rate		6℃/s max
Time 25℃ to peak Tempe.(T_p)		8 minutes max
Do not exceed		260℃

6. Dimensions

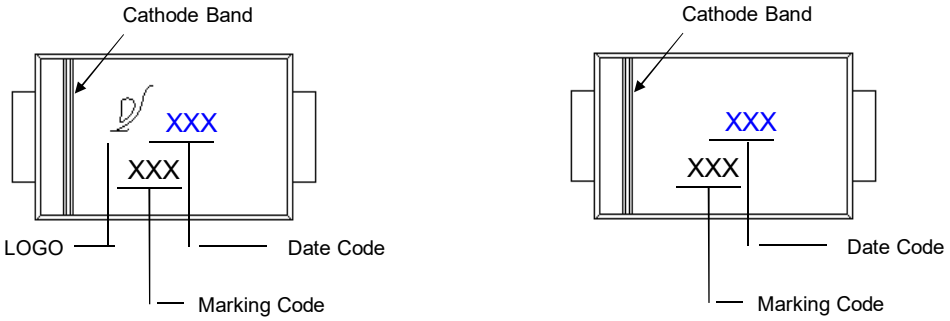


Dimensions	Inches		Millimeters	
	Min	Max	Min	Max
A	0.094	0.110	2.4	2.8
B	0.063	0.079	1.6	2.0
C	0.031	0.047	0.8	1.2
D	0.022	0.037	0.55	0.95
E	0.004	0.008	0.1	0.2
F	0.035	0.043	0.9	1.1
G	0.134	0.150	3.4	3.8

Mounting PAD Layout



7. Part Marking System



8. Package Information

Package	Tape Width (mm)	Reel Size		Quantity(pcs)
		mm	inch	
SOD-123FL	8	178	7	3000

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