

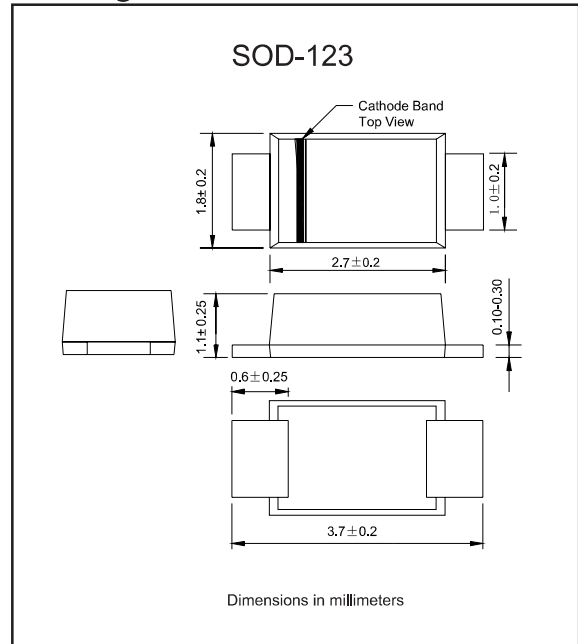
Features

- ◆ The plastic package carries Underwriters Laboratory Flammability Classification 94V-0
- ◆ Metal silicon junction, majority carrier conduction
- ◆ Low power loss, high efficiency
- ◆ High forward surge current capability
- ◆ High temperature soldering guaranteed:
250°C/10 seconds, 0.375" (9.5mm) lead length, 5 lbs. (2.3kg) tension
- ◆ Compliant to RoHS Directive 2011/65/EU
- ◆ Compliant to Halogen-free
- ◆ Suffix "-Q1" for AEC-Q101

Mechanical data

- ◆ **Case** : JEDEC SOD-123 molded plastic body
- ◆ **Terminals** : Plated axial leads, solderable per MIL-STD-750, Method 2026
- ◆ **Polarity** : Color band denotes cathode end
- ◆ **Mounting Position** : Any

Package outline



Maximum ratings and Electrical Characteristics (AT $T_A=25^\circ\text{C}$ unless otherwise noted)

PARAMETER	CONDITIONS	Symbol	MIN.	TYP.	MAX.	UNIT
Forward rectified current	See Fig.2	I_O			1.0	A
Forward surge current	8.3ms single half sine-wave (JEDEC methode)	I_{FSM}			25	A
Reverse current	$V_R = V_{RRM} \quad T_A = 25^\circ\text{C}$	I_R			1.0	mA
	$V_R = V_{RRM} \quad T_A = 100^\circ\text{C}$				20	
Thermal resistance	Junction to ambient NOTE 1	$R_{\theta JA}$		92		$^\circ\text{C}/\text{W}$
Diode junction capacitance	f=1MHz and applied 4V DC reverse voltage	C_J		110		pF
Storage temperature		T_{STG}	-65		+150	$^\circ\text{C}$

Note: 1.P.C.B. mounted with 0.2x0.2" (5.0x5.0mm) copper pad areas

SYMBOLS	V_{RRM}^{*1} (V)	V_{RMS}^{*2} (V)	V_R^{*3} (V)	V_F^{*4} (V)	Operating temperature T_J , ($^\circ\text{C}$)
DSL12-Q1	20	14	20	0.45	-55 to +125
DSL13-Q1	30	21	30		
DSL14-Q1	40	28	40		
DSL15-Q1	50	35	50	0.55	
DSL16-Q1	60	42	60		
DSL18-Q1	80	56	80	0.75	-55 to +150
DSL110-Q1	100	70	100		
DSL115-Q1	150	105	150	0.85	
DSL120-Q1	200	140	200		

*1 Repetitive peak reverse voltage

*2 RMS voltage

*3 Continuous reverse voltage

*4 Maximum forward voltage@ $I_F=1.0\text{A}$

Rating and characteristic curves

FIG.1-TYPICAL FORWARD CURRENT DERATING CURVE

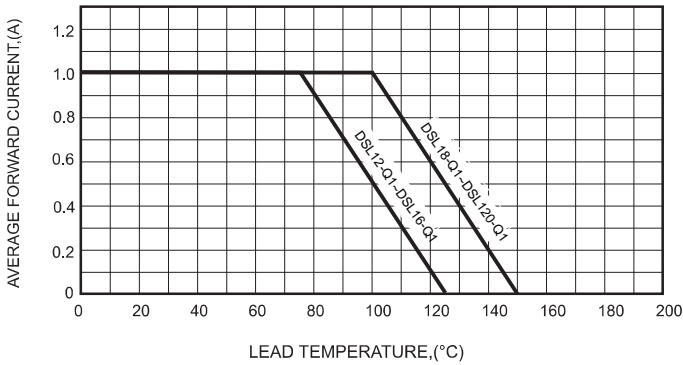


FIG.2-TYPICAL FORWARD CHARACTERISTICS

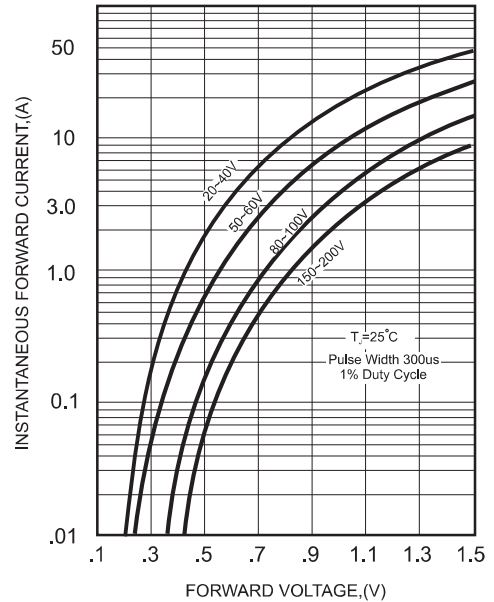


FIG.3-MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

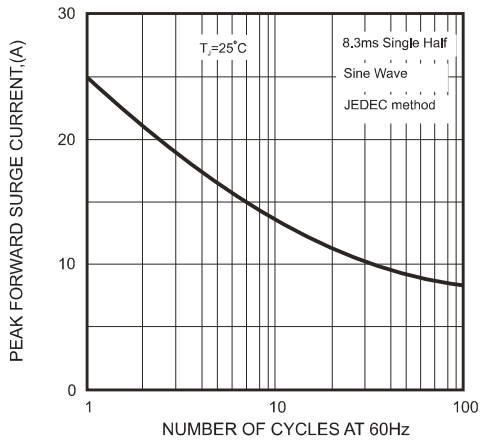


FIG.4-TYPICAL JUNCTION CAPACITANCE

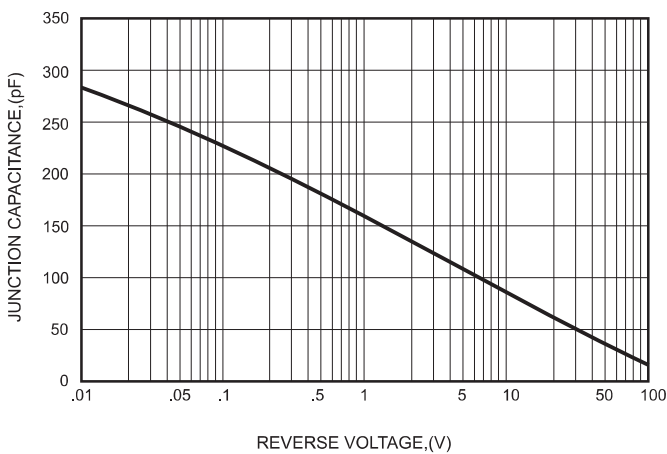
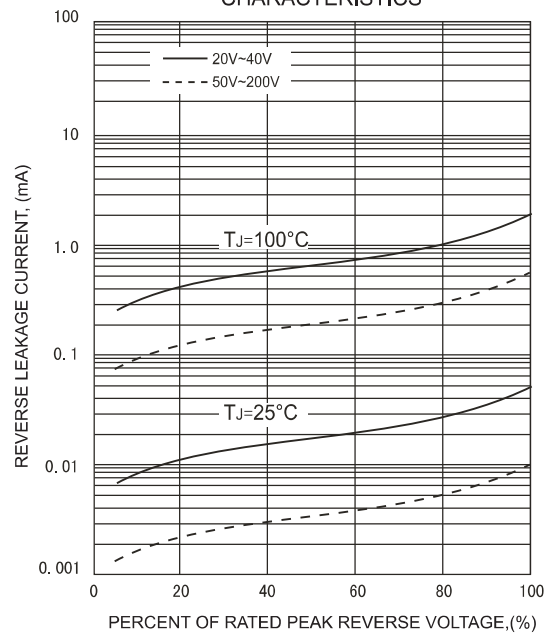




FIG.5 - TYPICAL REVERSE CHARACTERISTICS



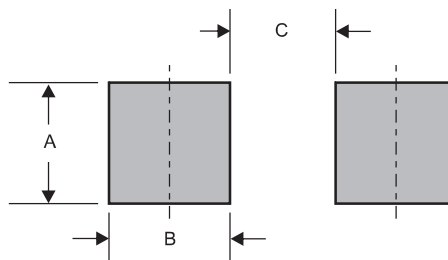
Pinning information

Pin	Simplified outline	Symbol
Pin1 cathode Pin2 anode		

Marking

Type number	Marking code
DSL12-Q1	12L
DSL13-Q1	13L
DSL14-Q1	14L
DSL15-Q1	15L
DSL16-Q1	16L
DSL18-Q1	18L
DSL110-Q1	10L
DSL115-Q1	115L
DSL120-Q1	120L

Suggested solder pad layout



Dimensions in inches and (millimeters)

PACKAGE	A	B	C
SOD-123	0.075 (1.90)	0.055 (1.40)	0.075 (1.90)