

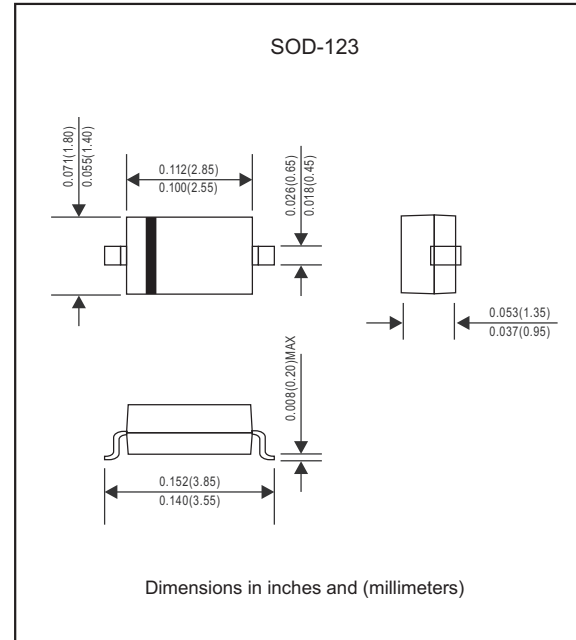
Features

- Small Surface Mounting Type
- Ideal for Automated Placement
- Low current leakage
- Low Power Losses, High Efficiency
- Low Forward Voltage Drop
- High speed switching
- Compliant to Halogen-free
- Suffix "-Q1" for AEC-Q101

Mechanical Characteristics

- Epoxy: UL94-VO rated flame retardant
- Case : Molded plastic, SOD-123
- Terminals : Solder plated, solderable per MIL-STD-750, Method 2026
- Polarity : Indicated by cathode band
- Mounting Position : Any

Package Outline



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

Parameter	Symbol	Value	Units
Peak Repetitive Reverse Voltage	V_{RRM}	40	V
RMS Reverse Voltage	V_{RMS}	28	V
Maximum Average Forward Output Current	$I_{F(AV)}$	1	A
Peak Forward Surge Current, 8.3ms Single Half-sine-wave	I_{FSM}	10	A
Power Dissipation	P_D	500	mW
Typical Thermal Resistance per leg	$R_{\theta JA}^*$	250	$^\circ\text{C/W}$
Typical Thermal Resistance per leg	$R_{\theta JL}$	162	$^\circ\text{C/W}$
Typical Thermal Resistance per leg	$R_{\theta JC}$	138	$^\circ\text{C/W}$
Operating Junction Temperature Range	T_J	-55 to +150	$^\circ\text{C}$
Storage Temperature Range	T_{STG}	-55 to +150	$^\circ\text{C}$

* Part mounted on FR-4 board with recommended pad layout

Electrical Characteristics ($T_A=25^\circ\text{C}$, unless otherwise noted)

Parameter	Symbol	Test conditions	Min.	Typ.	Max.	Units
Reverse Breakdown Voltage	$V_{(BR)R}$	$I_R = 1\text{mA}$	40			V
Forward Voltage	V_F^*	$I_F = 1\text{A}$			0.60	V
		$I_F = 3\text{A}$			0.90	
Maximum Peak Reverse Current	I_{R}^{**}	$V_R = 40\text{V}$			1	mA
Capacitance Between Terminals	C_T	$V_R = 4\text{V}, f = 1\text{MHz}$		39	120	pF

*Pulse widths 380us, Duty cycle < 2%

**pulse test, $t_p \leq 5\text{ms}$

Typical Characteristics

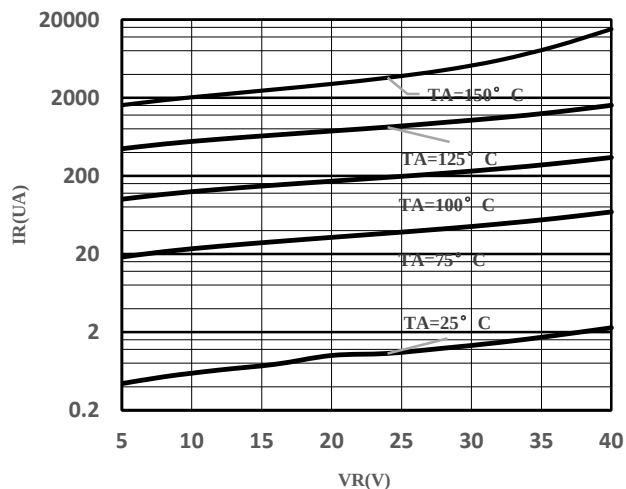


Fig.1- Typical Reverse Characteristic

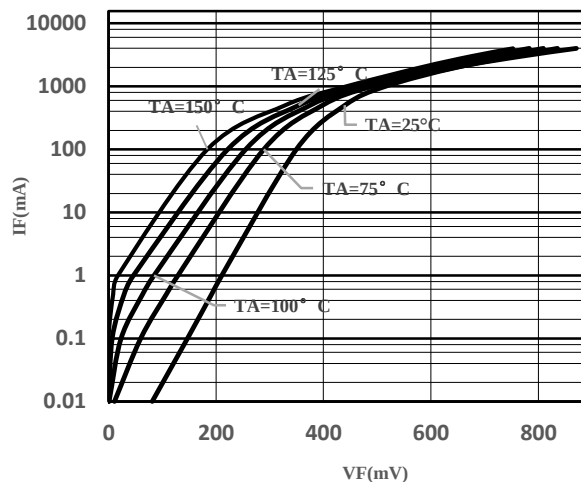


Fig.2- Typical Forward Characteristics

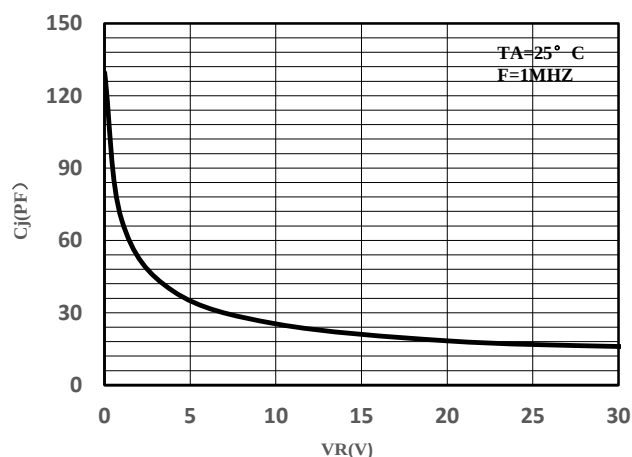


Fig.3- Capacitance Characteristics

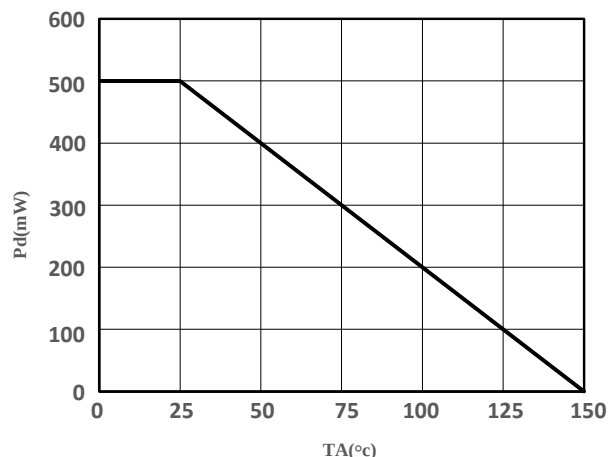


Fig.4- Derating Curve

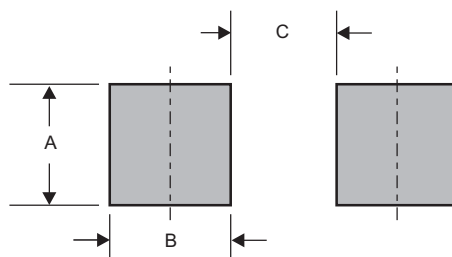
Pinning information

Pin1	cathode		
Pin2	anode		

Marking

Type number	Marking code
B5819HW	SLH

Suggested solder pad layout



Dimensions in inches and (millimeters)

PACKAGE	A	B	C
SOD-123	0.048 (1.22)	0.036 (0.91)	0.093 (2.36)