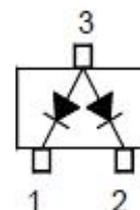
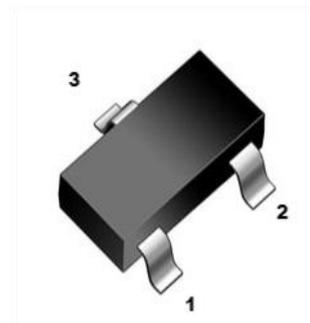




1. Features

- Small package
- Low forward voltage
- Fast reverse recovery time
- Small total capacitance

SOT-23



2. Mechanical Data

- Case: Molded Plastic, SOT-23.
- Epoxy: UL 94V-0 rate flame retardant.
- Terminals: Plated Leads Solderable per MIL-STD-750, Method-2026.
- Marking: A1
- Marking: marked on body.

3. Maximum Ratings

Electrical Characteristics Rating at 25°C ambient temperature unless otherwise specified.

Characteristic	Symbol	Value	Unit
Repetitive Peak Reverse Voltage	V_{RRM}	85	V
Reverse Voltage	V_R	75	V
Continuous Forward Current(Double Diode Loaded)	I_F	125	mA
Continuous Forward Current(Single Diode Loaded)	I_F	215	mA
Repetitive Peak Forward Current	I_{FRM}	450	mA
Non-Repetitive Peak Forward Current	I_{FSM}	$t = 1\text{ s}$	0.5
		$t = 1\text{ ms}$	1
		$t = 1\text{ }\mu\text{s}$	4
Power Dissipation	P_{tot}	350	mW
Thermal Resistance from Junction to Ambient Air	$R_{\theta JA}$	357	°C/W
Junction Temperature	T_J	-65 to +150	°C
Storage Temperature Range	T_{stg}	-65 to +150	°C

4. Electrical Characteristics ($T_a=25^\circ\text{C}$ unless otherwise noted)

Parameters	Symbol	Condition	Min	TYP	Max	Unit
Forward Voltage	V_F	$I_F = 1\text{ mA}$	-	-	0.715	V
		$I_F = 10\text{ mA}$			0.855	
		$I_F = 50\text{ mA}$			1	
		$I_F = 150\text{ mA}$			1.25	
Reverse Current	I_R	$V_R = 25\text{ V}$	-	-	30	nA
		$V_R = 75\text{ V}$			1	μA
		$V_R = 25\text{ V}, T_J = 150^\circ\text{C}$			30	μA
		$V_R = 75\text{ V}, T_J = 150^\circ\text{C}$			50	μA
Diode Capacitance	C_d	$V_R = 0\text{ V}, f = 1\text{ MHz}$	-	-	2	pF
Reverse Recovery Time	t_{tr}	$I_F = I_R = 10\text{ mA}$ $R_L = 100\Omega$	-	-	4	ns



5. Rating And Characteristic Curves

Fig.1 Forward Characteristics

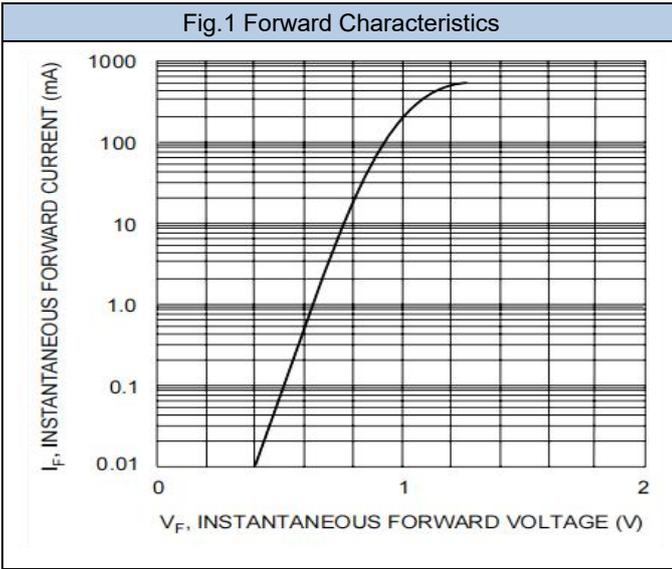


Fig.2 Leakage Current vs Junction Temperature

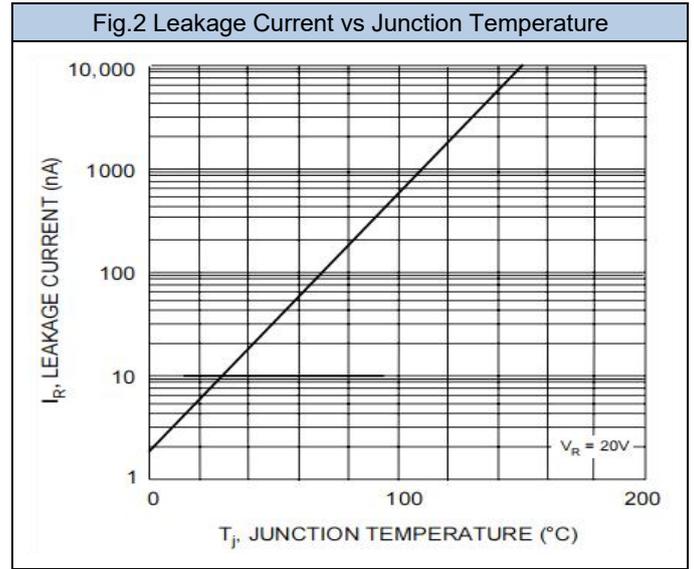
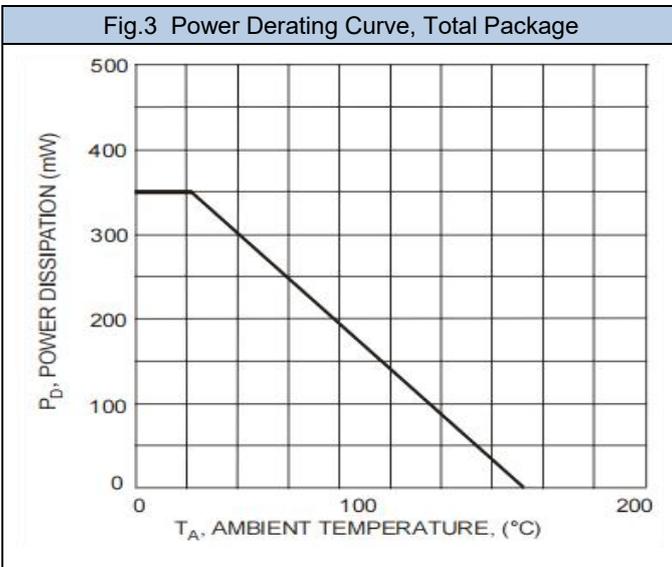
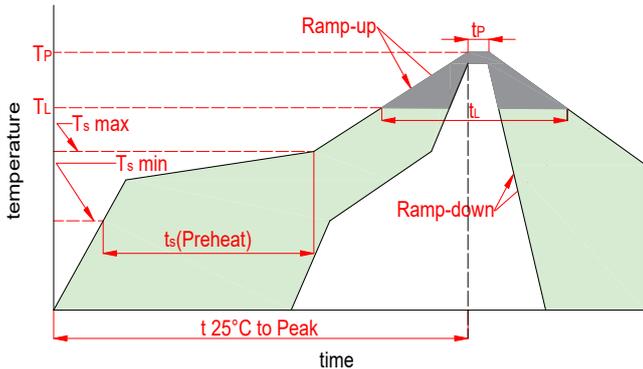


Fig.3 Power Derating Curve, Total Package



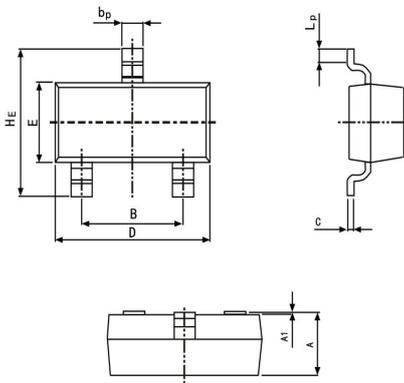


6. Soldering Parameters



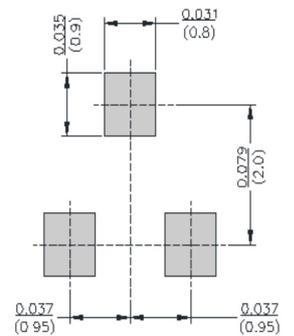
Reflow Condition		Lead-free
Pre Heat	Temp. min($T_s(\text{min})$)	150°C
	Temp. max($T_s(\text{min})$)	200°C
	Time(min to max)(t_s)	60~120s
Aver. ramp up rate(Liquidus Temp.)(T_L)to peak		3°C/s max
$T_s(\text{max})$ to T_L -Ramp-up Rate		3°C/s max
Reflow	Temp.(T_L)(Liquidus)	217°C
	Temp.(t_l)(Liquidus)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

7. Dimensions

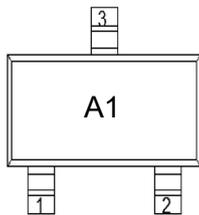


Dimensions	Inches		Millimeters	
	Min	Max	Min	Max
A	0.035	0.045	0.90	1.15
B	0.070	0.081	1.78	2.05
bp	0.012	0.020	0.30	0.51
C	0.003	0.007	0.08	0.18
D	0.110	0.118	2.80	3.00
E	0.047	0.055	1.20	1.40
HE	0.087	0.110	2.20	2.80
A1	0.000	0.004	0.00	0.10
LP	0.008	0.020	0.20	0.50

Mounting PAD Layout



8. Part Marking System



9. Package Information

Package	Part Number	Tape Width(mm)	Quantity(pcs)
SOT-23	BAW56	8	3000



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