

FEATURES

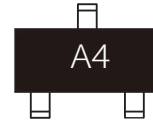
- | Fast Switching Speed

- | For General Purpose Switching Applications

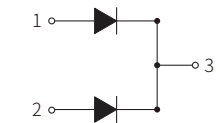
- | High Conductance



SOT-523



Marking



Schematic Symbol

MECHANICAL DATA

- | SOT-523 Small Outline Plastic Package

- | Epoxy UL: 94V-0

- | Mounting Position: Any

APPROVALS

RoHS	Compliance with 2011/65/EU
HF	Compliance with IEC61249-2-21:2003

MAXIMUM RATINGS ($T_A=25^{\circ}\text{C}$)

Parameter	Symbol	Value	Unit
Reverse Voltage	V_R	85	V
Forward Current	I_O	75	mA
Forward Power Dissipation	P_D	150	mW
Operating Junction Temperature	T_J	150	$^{\circ}\text{C}$
Storage Temperature Range	T_{STG}	-55 to +150	$^{\circ}\text{C}$

ELECTRICAL CHARACTERISTICS($T_A=25^{\circ}\text{C}$)

Parameter	Symbol	Test Conditions	Min.	Typ.	Max.	Unit
Forward Voltage	V_F	$I_F=1\text{mA}$			715	mV
		$I_F=10\text{mA}$			855	
		$I_F=50\text{mA}$			1000	
		$I_F=150\text{mA}$			1250	
Reverse Breakdown Voltage	$V_{(BR)}$	$I_R=1\mu\text{A}$	85			V
Reverse Voltage Leakage Current	I_{R1}	$V_R=75\text{V}$			2	μA
	I_{R2}	$V_R=25\text{V}$			0.03	μA
Diode Capacitance	C_D	$V_R=0\text{V}$, $f=1\text{MHz}$			1.5	pF
Reverse Recovery Time	t_{rr}	$I_F=I_R=10\text{mA}$, $R_L=100\Omega$ $I_{rr}=0.1 \times I_R$			4	nS

CHARACTERISTIC CURVES

Fig.1 Forward Characteristics

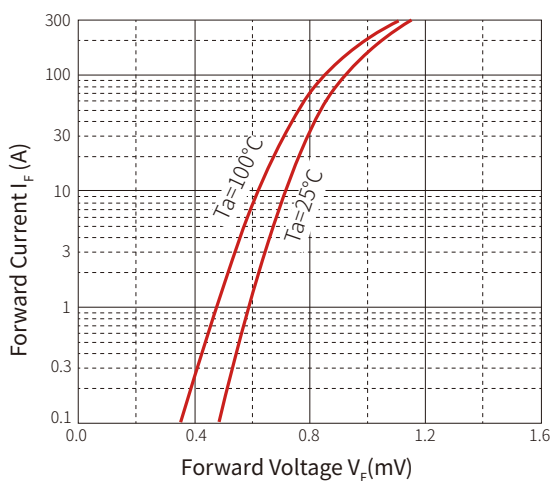


Fig.2 Reverse Characteristics

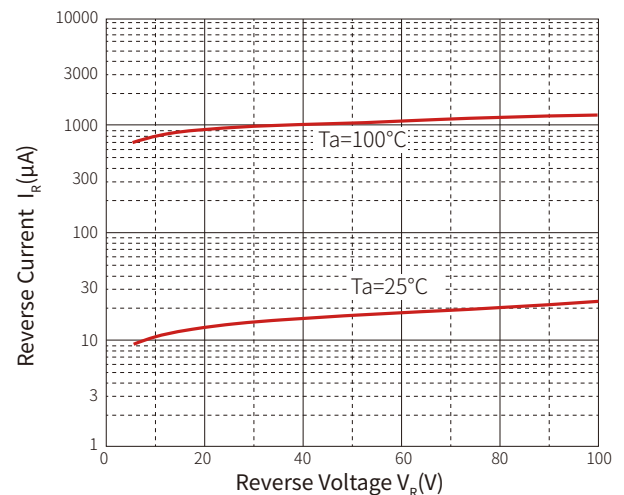
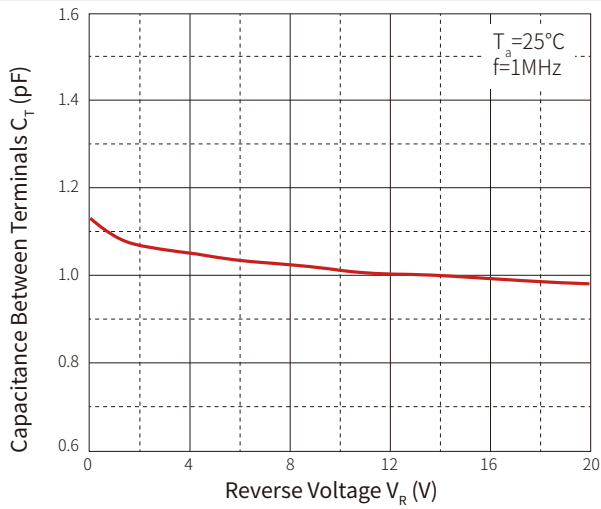
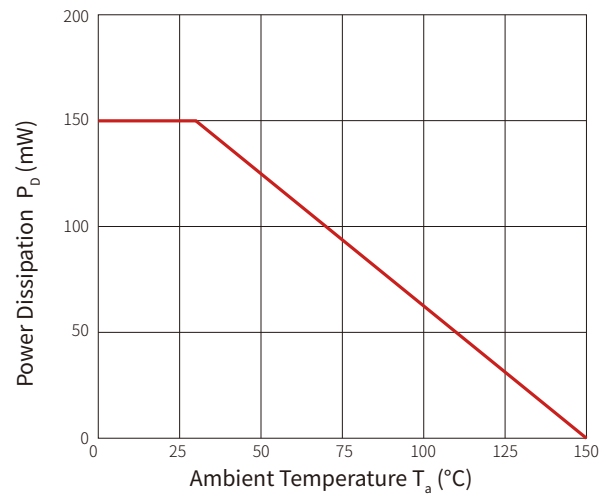
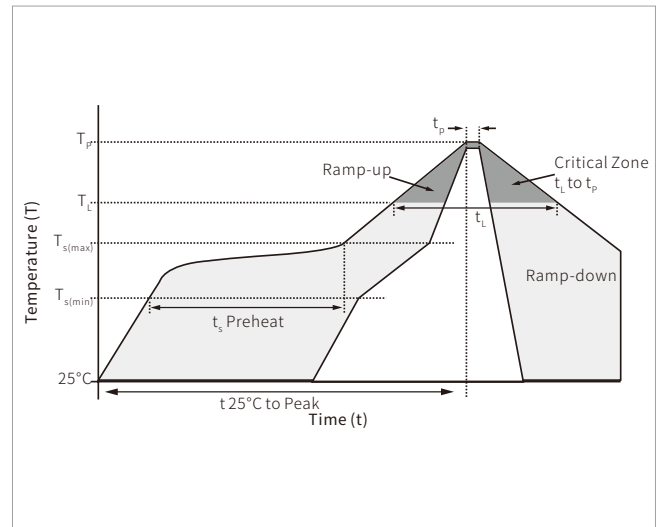


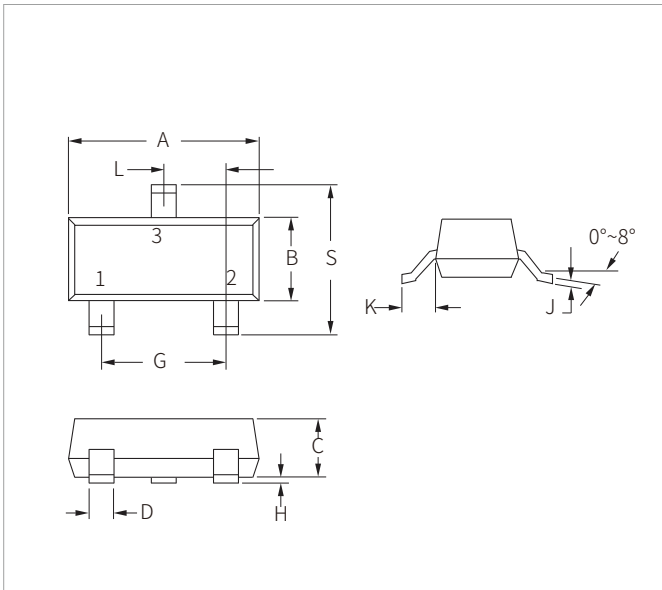
Fig.3 Capacitance Characteristics

Fig.4 Power Derating Curve


SOLDERING PARAMETERS

Reflow Condition		Lead-free assembly
Pre Heat	Temperature Max ($T_{s(min)}$)	150°C
	Temperature Max ($T_{s(max)}$)	200°C
	Time (min to max) (t_s)	60 – 180 secs
Average ramp up rate (Liquidus Temp (T_L) to peak)		3°C/second max
$T_{s(max)}$ to T_L - Ramp-up Rate		3°C/second max
Reflow	Temperature (T_L) (Liquidus)	217°C
	Time (min to max) (t_L)	60 – 150 seconds
Peak Temperature (T_p)		260°C
Time within 5°C of actual peak Temperature (t_p)		20 – 40 seconds
Ramp-down Rate		6°C/second max
Time 25°C to peak Temperature (T_p)		8 minutes max.
Do not exceed		260°C

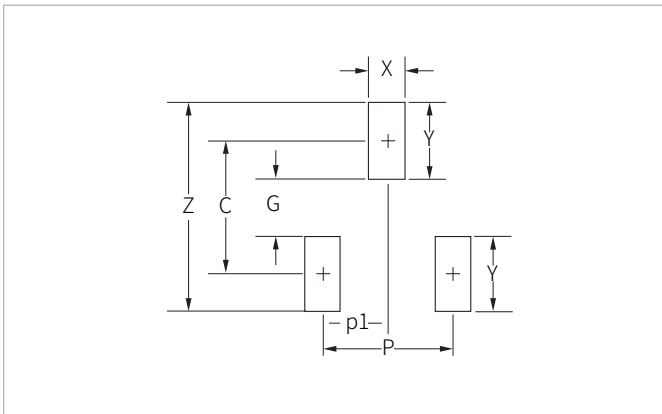


SOT-523 PACKAGE INFORMATION



Ref.	Millimeters		Inches	
	Min.	Max.	Min.	Max.
A	1.50	1.70	0.059	0.067
B	0.75	0.85	0.029	0.033
C	0.60	0.80	0.023	0.031
D	0.15	0.30	0.005	0.012
G	1.00BSC		0.039BSC	
H	0.00	0.10	0.000	0.004
J	0.10	0.20	0.004	0.008
K	(0.22)		(0.009)	
L	0.50BSC		0.020BSC	
S	1.45	1.75	0.057	0.069

RECOMMENDED PAD LAYOUT DIMENSIONS



Ref.	Millimeters	Inches
C	(1.40)	(0.055)
P	1.00	0.039
p1	0.50	0.020
G	0.60	0.024
X	0.40	0.016
Y	0.80	0.031
Z	2.20	0.087

ORDERING INFORMATION

Part Number	Component Package	QTY/Reel	Reel Size
BAV70T	SOT-523	3000PCS	7"

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By QR Code

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