

FEATURES

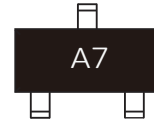
- | Fast Switching Speed

- | For General Purpose Switching Applications

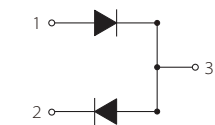
- | High Conductance



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°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	°C
Storage temperature range	T _{STG}	-55 to +150	°C

ELECTRICAL CHARACTERISTICS(T_A=25°C)

Parameter	Symbol	Test Conditions	Min.	Typ.	Max.	Unit
Forward voltage	V _F	I _F =1mA			715	mV
		I _F =10mA			855	
		I _F =50mA			1000	
		I _F =150mA			1250	
Reverse breakdown voltage	V _(BR)	I _R =1μA	85			V
Reverse voltage leakage current	I _{R1}	V _R =75V			2	μA
	I _{R2}	V _R =25V			0.03	μA
Diode capacitance	C _D	V _R =0V, f=1MHz			1.5	pF
Reverse recovery time	t _{rr}	I _F =I _R =10mA, R _L =100Ω I _{rr} =0.1×I _R			4	nS

CHARACTERISTIC CURVES

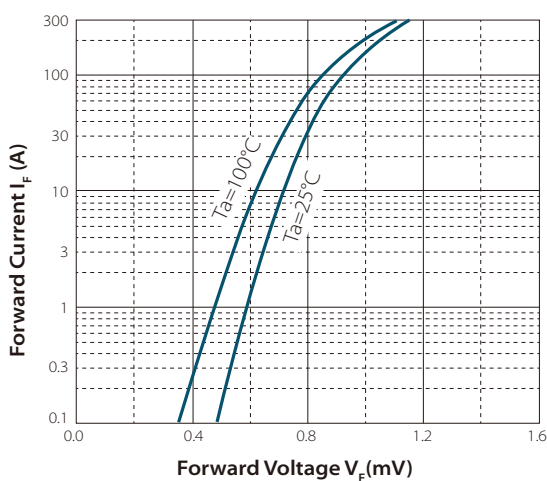
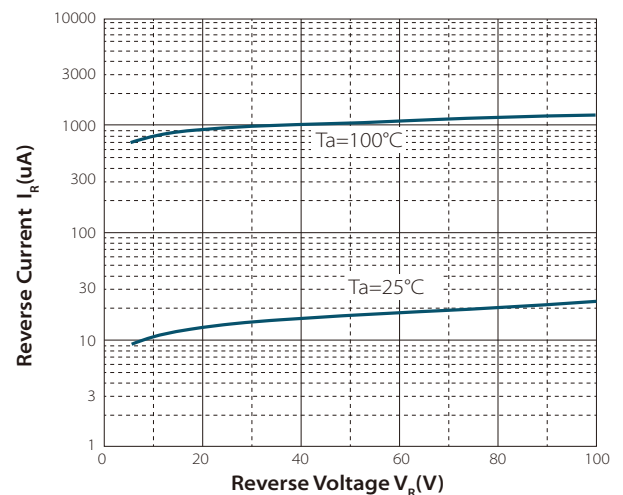
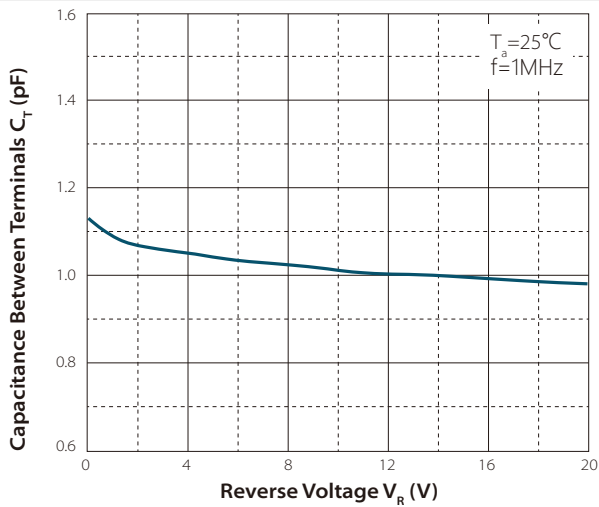
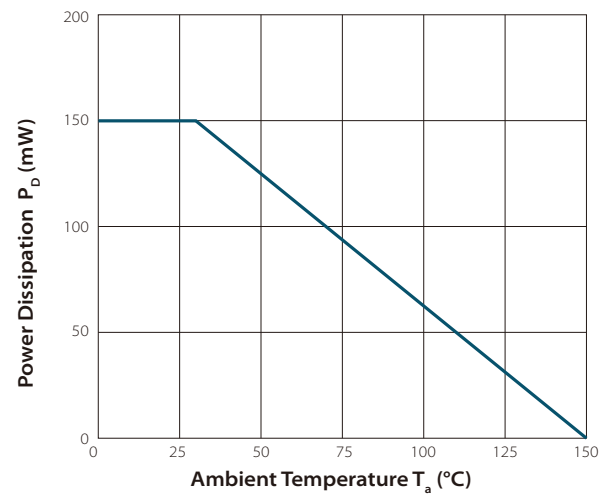
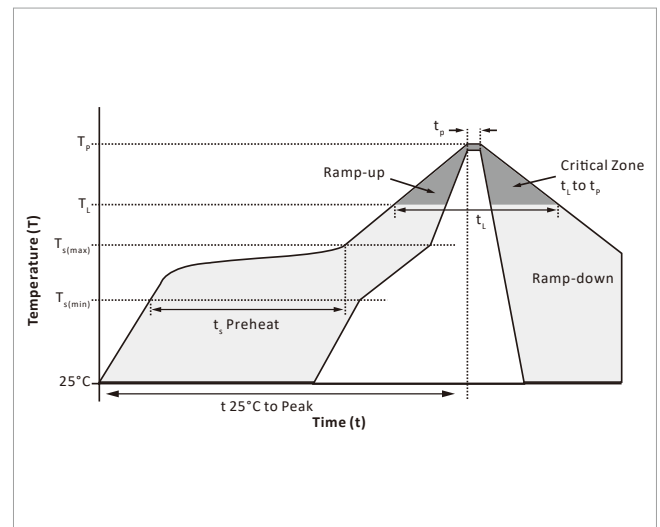
Fig.1 Forward Characteristics

Fig.2 Reverse Characteristics


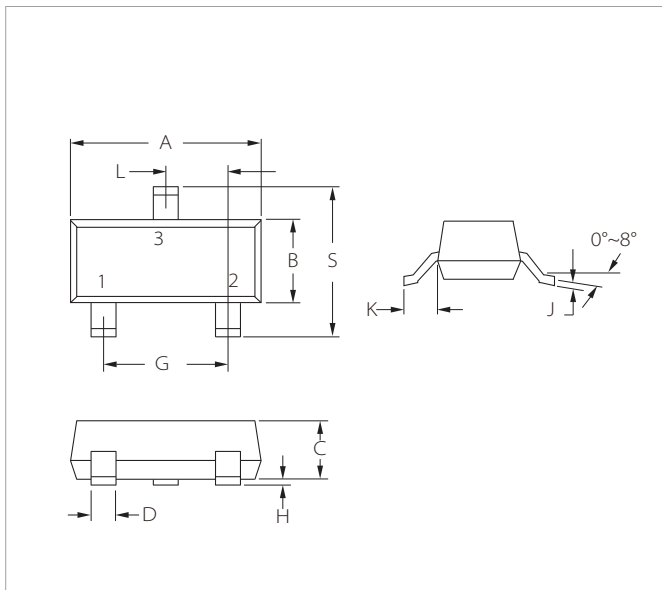
Fig.3 Capacitance Characteristics

Fig.4 Power Derating Curve


SOLDERING PARAMETERS

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

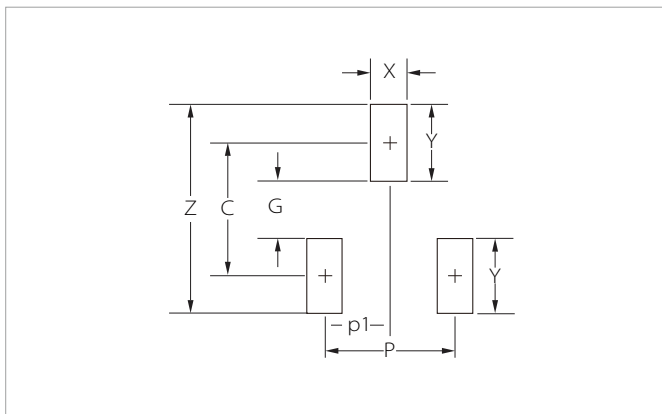


SOT-523 PACKAGE INFORMATION



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
BAV99T	SOT-523	3000PCS	7"

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