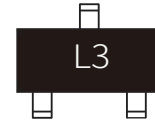


FEATURES

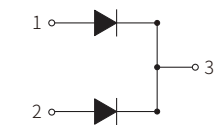
- | Low Forward Voltage Drop
- | Fast Switching
- | Pn Junction Guard Ring For Transient And ESD Protection



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
Peak Repetitive Reverse Voltage	V _{RRM}	30	V
Working Peak Reverse Voltage	V _{RWM}	30	V
RMS Reverse Voltage	V _{R(RMS)}	21	V
Power Dissipation	P _d	150	mW
Operating Junction Temperature	T _J	125	°C
Storage Temperature Range	T _S	-55 to +150	°C
Average Rectified Output Current	I _O	600	mA
Repetitive Peak Forward Surge Current @t=8.3ms	I _{FSM}	300	mA
Peak Forward Surge Current @tp=1s; δ≤0.5	I _{FRM}	2.0	A
Thermal Resistance From Junction to Ambient	R _{θJA}	600	°C/W

ELECTRICAL CHARACTERISTICS(T_A=25°C)

Parameter	Symbol	Test Conditions	Min.	Typ.	Max.	Unit
Forward Voltage	V _F	I _F =1mA			0.32	V
		I _F =10mA			0.40	V
		I _F =30mA			0.50	V
		I _F =100mA			1.00	V
Reverse Breakdown Voltage	V _(BR)	I _R =100μA	30			V
Reverse Leakage Current	I _R	V _R =25V			2	μA
Total Capacitance	C _{tot}	V _R =1V, f=1MHz			10	pF
Reverse Recovery Time	T _{RR}	I _F =I _R =10mA, R _L =100Ω I _{RR} =0.1×I _R			5	nS

CHARACTERISTIC CURVES

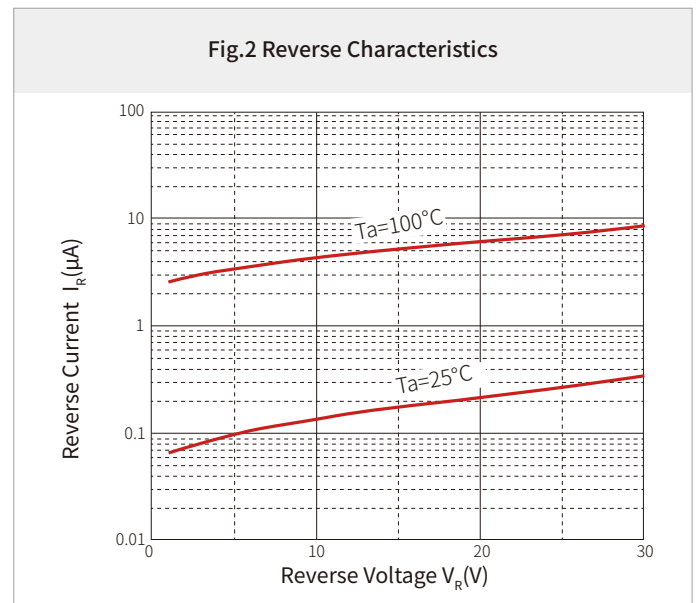
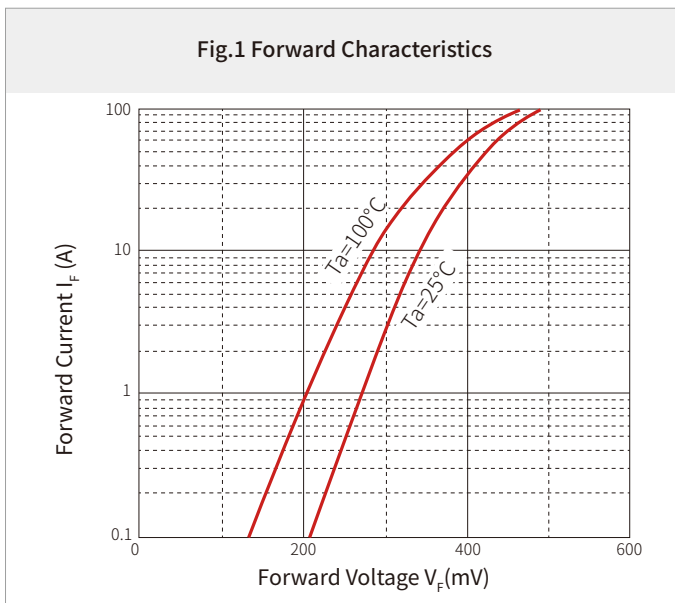
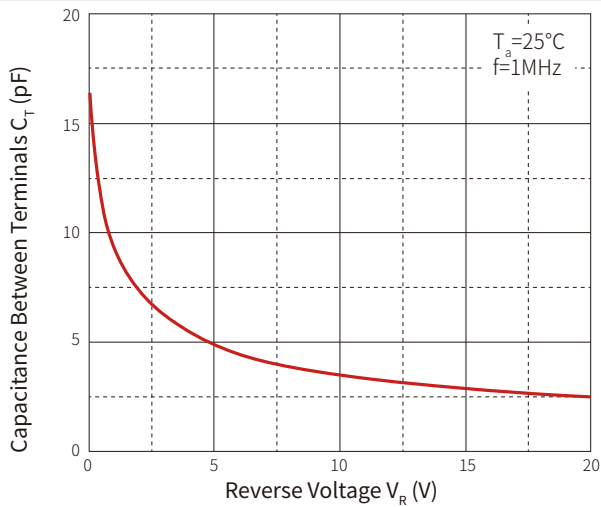
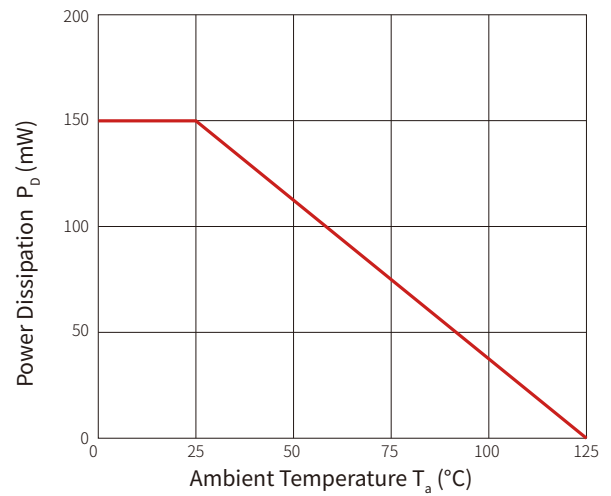
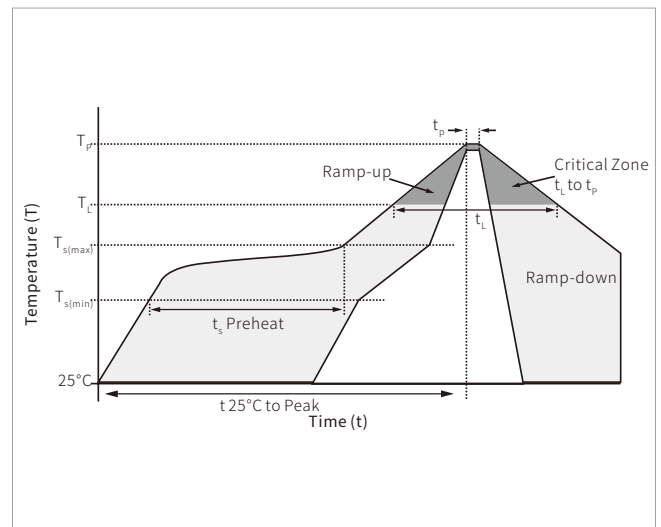


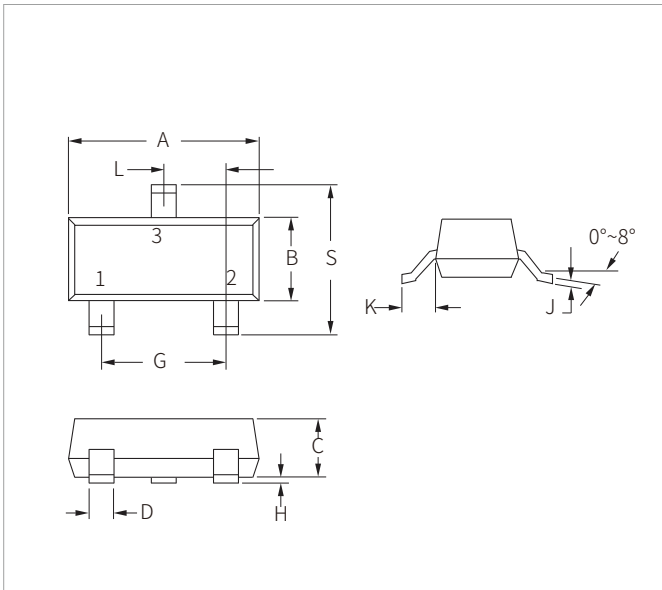
Fig.3 Capacitance Characteristics

Fig.4 Power Derating Curve


SOLDERING PARAMETERS

Reflow Condition		Lead-free assembly
Pre Heat	Temperature Max ($T_{s(\text{min})}$)	150 $^\circ\text{C}$
	Temperature Max ($T_{s(\text{max})}$)	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
$T_{s(\text{max})}$ 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 $^\circ\text{C}$

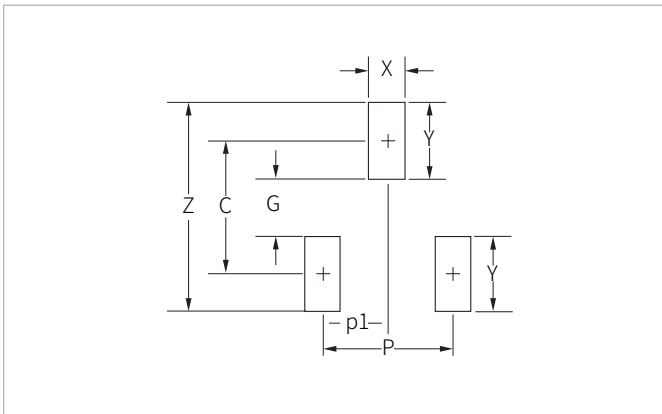


SOT-523 PACKAGE INFORMATION



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
BAT54CT	SOT-523	3000PCS	7"

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By QR Code

Website



Wechat

To find your local partner within Semiware's global website: www.semiware.com

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