

FEATURES

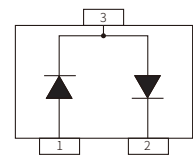
- High switching speed: $t_{rr} \leq 4 \text{ ns}$
- Low capacitance: $C_d \leq 1.5 \text{ Pf}$
- Low leakage current
- Reverse voltage: $V_R \leq 100 \text{ V}$
- Very small SMD plastic packages



SOT-323



Marking



Schematic Symbol

MECHANICAL DATA

- High-speed switching
- Reverse polarity protection
- General-purpose switching

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
Repetitive Peak Reverse Voltage		V_{RRM}	85	V
Reverse Voltage		V_R	75	V
Continuous Forward Current Single Diode Load		I_F	150	mA
Continuous Forward Current Double Diode Load		I_F	130	mA
Repetitive Peak Forward Current		I_{FRM}	500	mA
Non-Repetitive Peak Forward Surge Current at	$t=1\mu\text{s}$	I_{FSM}	4	A
	$t=1\text{ms}$		1	A
	$t=1\text{s}$		0.5	A
Total Power Dissipation		P_{tot}	200	mW
Thermal Resistance from Junction to Ambient		$R_{\theta JA}$	625	$^\circ\text{C/W}$
Junction Temperature		T_J	-55 ~ +150	$^\circ\text{C}$
Storage temperature range		T_{STG}	-55 ~ +150	$^\circ\text{C}$

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

Parameter	Test Condition	Symbol	Min.	Max.	Unit
Reverse Current	$V_R = 25\text{V}$	I_R		30	nA
	$V_R = 75\text{V}$			1	uA
	$V_R = 25\text{V}, T_j=150^{\circ}\text{C}$			30	uA
	$V_R = 75\text{V}, T_j=150^{\circ}\text{C}$			50	uA
Forward Voltage	$I_F=1\text{mA}$	V_F		0.715	V
	$I_F=10\text{mA}$			0.855	V
	$I_F=50\text{mA}$			1	V
	$I_F=150\text{mA}$			1.25	V
Capacitance between terminals	$V_R=0\text{V}, f=1\text{MHz}$	C_d		1.5	pF
Reverse Recovery Time	$I_F=I_R=10\text{mA}$ $I_{rr}=0.1 \times I_R, R_L=100\Omega$	t_{rr}		4	nS

CHARACTERISTIC CURVES

Fig 1. Maximum permissible continuous forward current as a function of ambient temperature

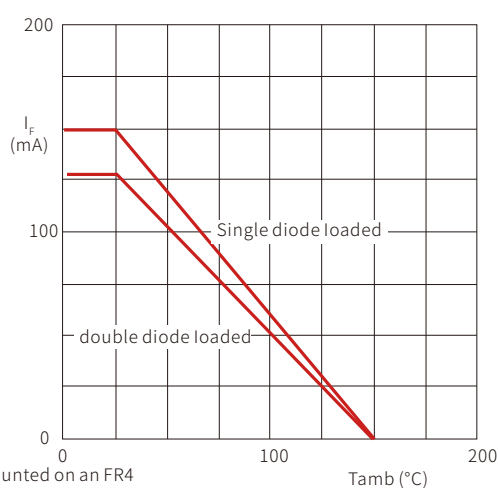
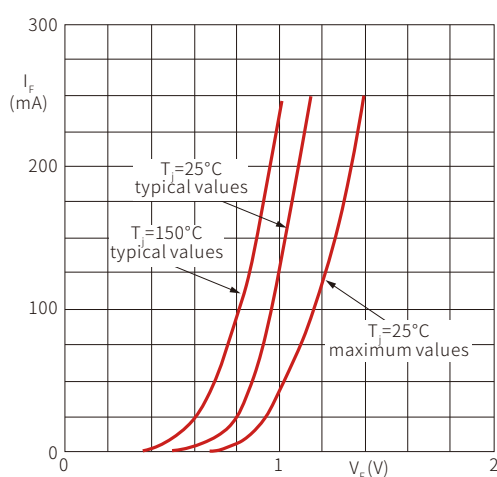
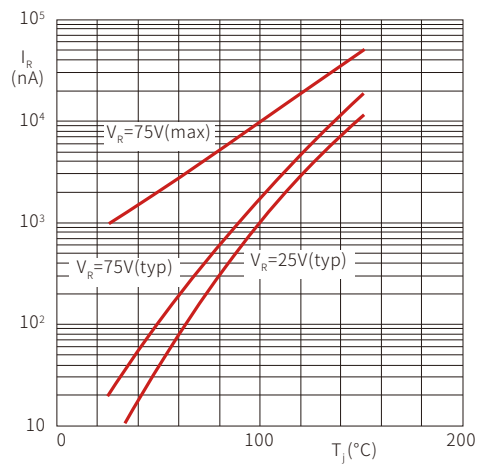
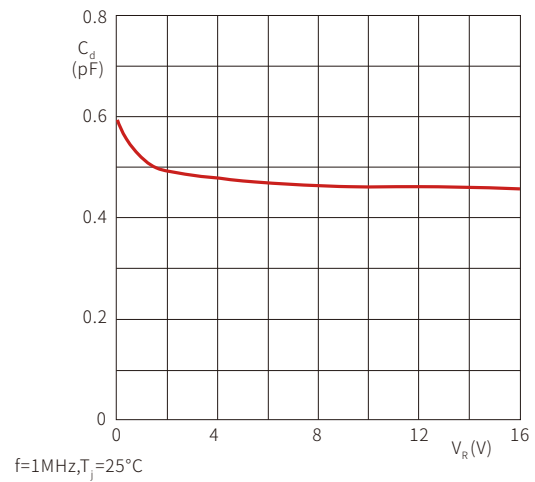
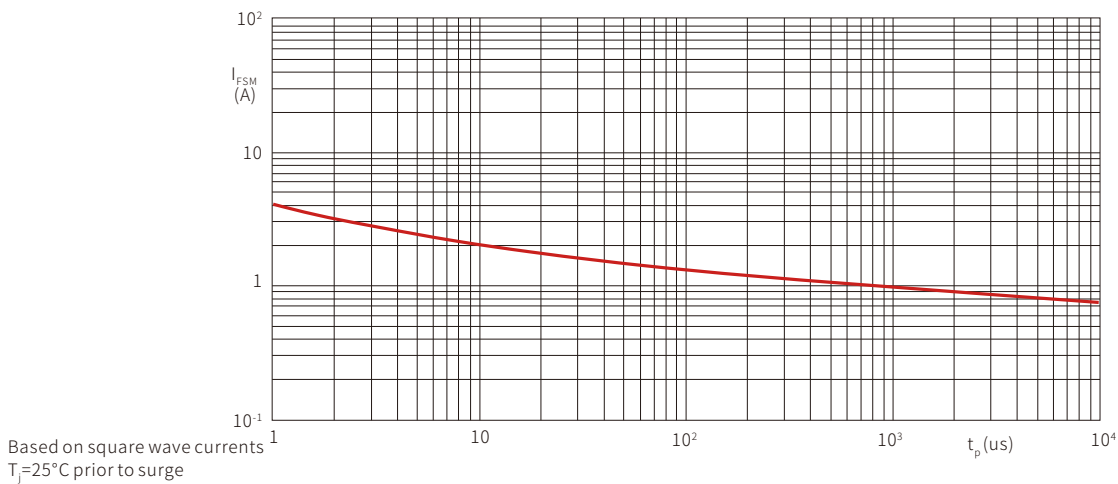


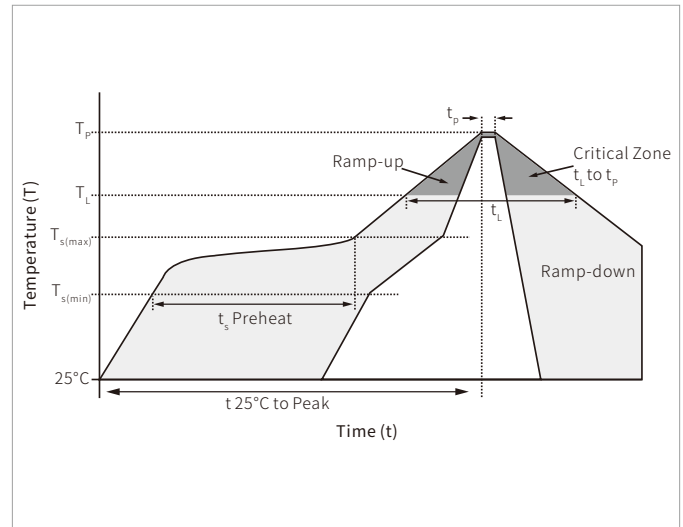
Fig 2. Forward current as a function of forward voltage



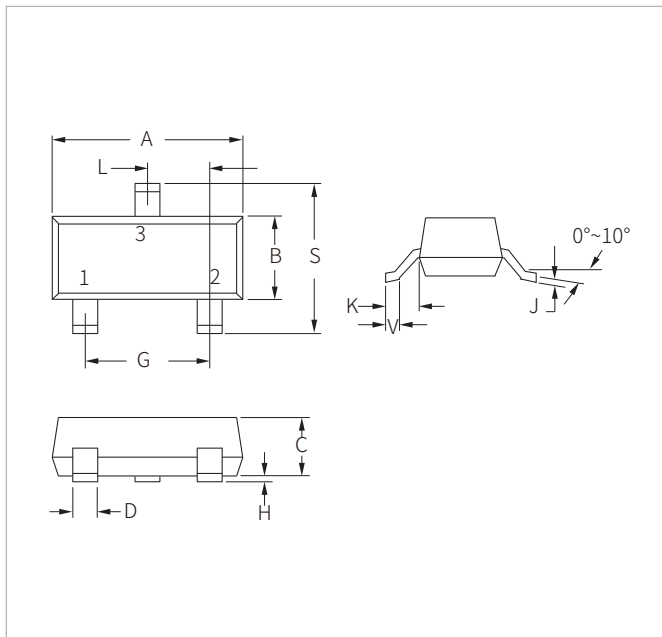
**Fig 3. Reverse current as a function of junction temperature****Fig 4. Diode capacitance as a function of reverse voltage typical values****Fig 5. Maximum permissible non-repetitive peak forward current as a function of pulse duration**

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

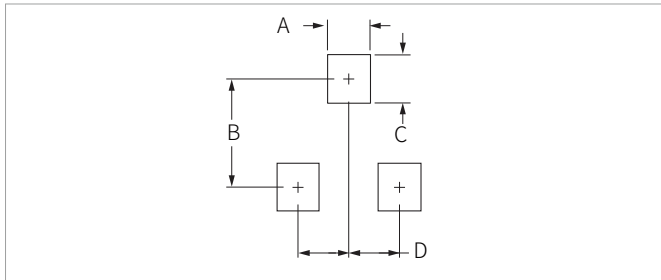


SOT-323 PACKAGE INFORMATION



Ref.	Millimeters		Inches	
	Min.	Max.	Min.	Max.
A	2.00	2.20	0.079	0.087
B	1.15	1.35	0.045	0.053
C	0.80	1.10	0.031	0.043
D	0.20	0.40	0.008	0.016
G	1.20	1.40	0.047	0.055
H	0.00	0.10	0.000	0.004
J	0.08	0.15	0.003	0.006
K	0.525REF		0.021REF	
L	0.650TYP		0.026TYP	
S	2.15	2.45	0.085	0.096
V	0.26	0.46	0.010	0.018

RECOMMENDED PAD LAYOUT DIMENSIONS



Ref.	Millimeters	Inches
	NOR	NOR
A	0.50	0.020
B	2.20	0.087
C	0.80	0.031
D	1.30	0.051

ORDERING INFORMATION

Part Number	Component Package	QTY/Reel	Reel Size
BAV99W	SOT-323	3000PCS	7"

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By QR Code

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Wechat

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