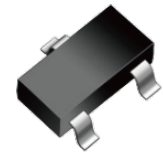


FEATURES

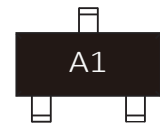
| Low forward voltage : $V_F(3) = 0.90V$ (typ.)

| Fast reverse recovery time : $t_{rr} = 1.8ns$ (typ.)

| Small total capacitance : $C_T = 2.3pF$ (typ.)



SOT-23



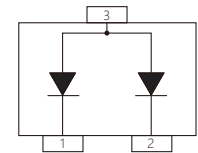
Marking

MECHANICAL DATA

| SOT-23 Small Outline Plastic Package

| Polarity: Color band denotes cathode end

| Mounting Position: Any



Schematic Symbol

APPROVALS

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

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

Parameter	Symbol	Value	Unit
Maximum (peak) reverse voltage	V_{RM}	85	V
Reverse voltage	V_R	80	V
Maximum (peak) forward current (Note 1)	I_{FM}	300	mA
Average forward current (Note 1)	I_O	100	mA
Surge current (10ms) (Note 1)	I_{FSM}	2.0	A
Power Dissipation	P_D	150	mW
Junction Temperature	T_J	125	$^\circ C$
Storage Temperature Range	T_{STG}	-55 to +125	$^\circ C$

Note:

1. Unit rating. Total rating = Unit rating \times 1.5.

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

Parameter	Test Condition	Symbol	Min.	Typ.	Max.	Unit
Reverse Current	$V_R = 30\text{V}$	I_R			0.1	μA
	$V_R = 80\text{V}$				0.5	μA
Forward Voltage	$I_F = 1\text{mA}$	V_F		0.60		V
	$I_F = 10\text{mA}$			0.75		V
	$I_F = 100\text{mA}$			0.9	1.2	V
Capacitance between terminals	$V_R=0\text{V}, f=1\text{MHz}$	C_T		2.3	4	pF
Reverse Recovery Time	$I_F=10\text{mA}$	T_{rr}		1.8	4	nS

CHARACTERISTIC CURVES

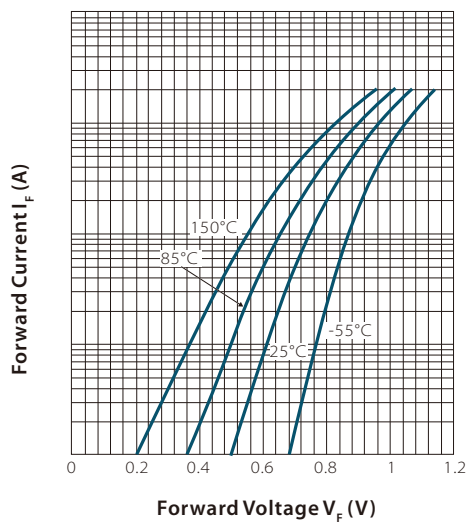
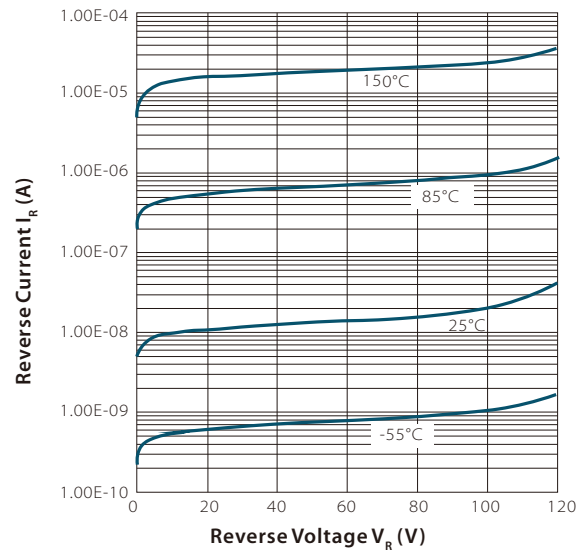
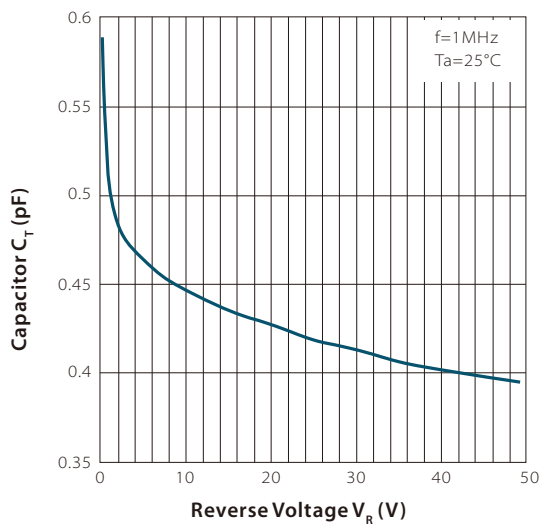
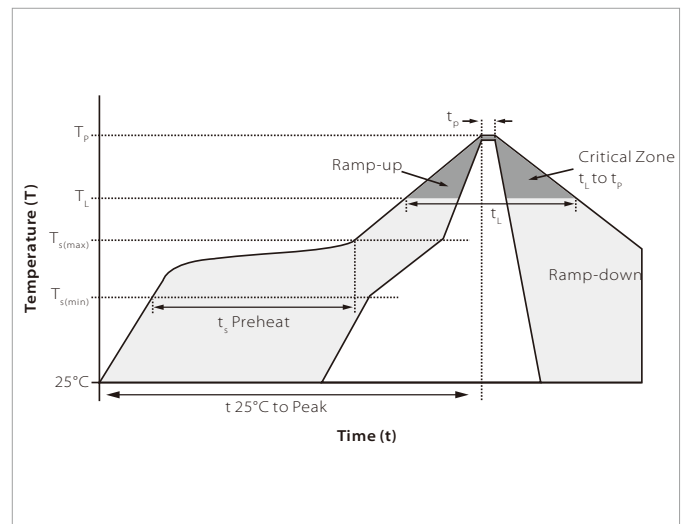
Fig 1. I_F vs. V_F

Fig 2. I_R vs. V_R


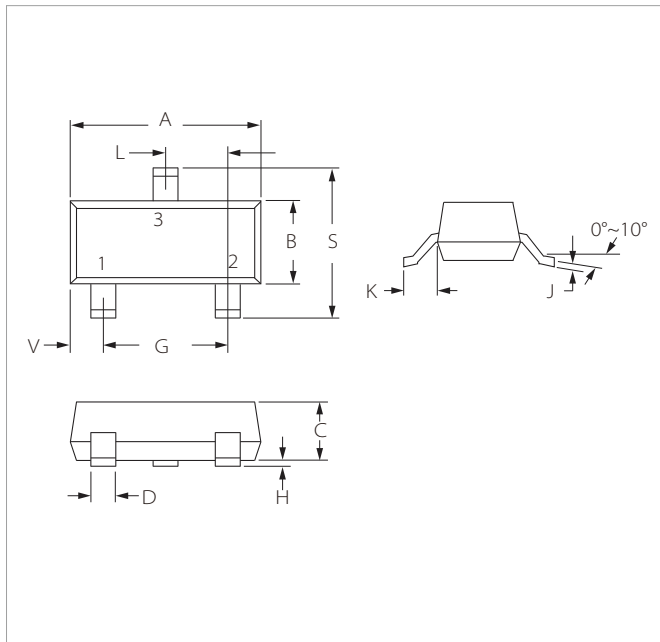
Fig 3. CT vs. VR


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

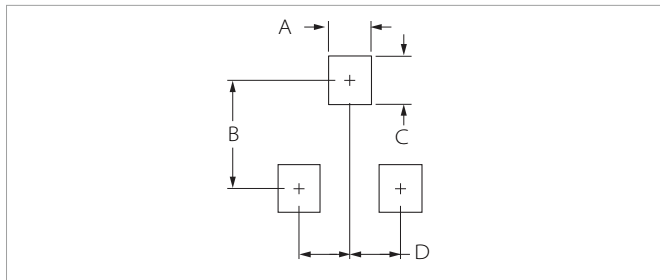


SOT-23 PACKAGE INFORMATION



Ref.	Millimeters		Inches	
	Min.	Max.	Min.	Max.
A	2.80	3.04	0.110	0.120
B	1.20	1.40	0.047	0.055
C	0.89	1.11	0.035	0.044
D	0.37	0.50	0.015	0.020
G	1.78	2.04	0.070	0.081
H	0.01	0.100	0.001	0.004
J	0.085	0.180	0.003	0.007
K	0.35	0.69	0.014	0.029
L	0.89	1.02	0.035	0.040
S	2.10	2.64	0.083	0.104
V	0.45	0.60	0.018	0.024

RECOMMENDED PAD LAYOUT DIMENSIONS



Ref.	Millimeters		Inches	
	Min.	Max.	Min.	Max.
A	0.71	0.97	0.028	0.038
B	1.88	2.13	0.074	0.084
C	0.71	0.97	0.028	0.038
D	0.81	1.07	0.032	0.042

ORDERING INFORMATION

Part Number	Component Package	QTY/Reel	Reel Size
BAW56	SOT-23	3000PCS	7"

To find your local partner within Semiwell's website : www.semiwell.com.cn

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