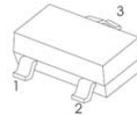


## Features

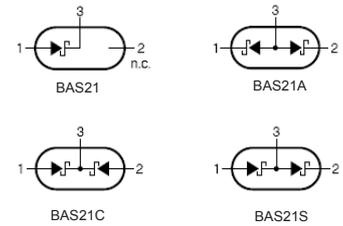
- Fast Switching Speed
- Surface Mount Package Ideally Suited for Automatic Insertion
- High Conductance
- For General Purpose Switching Applications



### SOT-23



### Equivalent Circuit



## MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

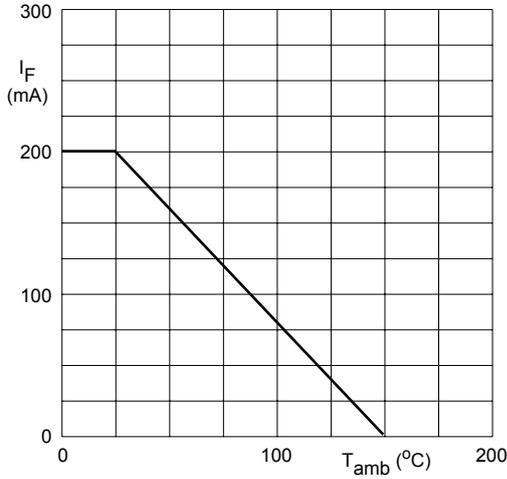
### Maximum Ratings

Parameter	Symbol	Rating	Unit
Reverse Voltage	$V_R$	250	V
Forward Current	$I_F$	200	mA
Power Dissipation	$P_D$	200	mW
Operating Junction Temperature Range	$T_J$	-55 to +150	°C
Storage Temperature Range	$T_{stg}$	-55 to +150	°C

## Electrical Characteristics ( $T_a=25^{\circ}\text{C}$ unless otherwise noted)

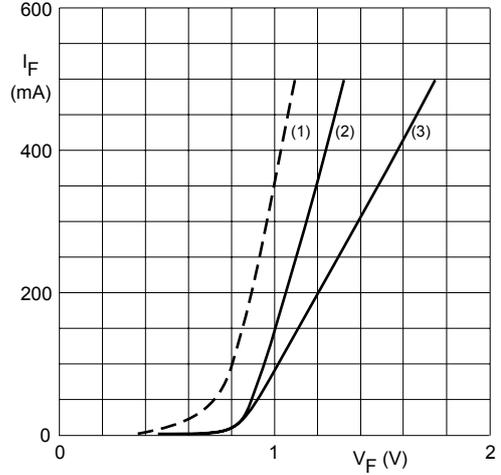
Parameter	Symbol	Testconditions	Min	Typ	Max	Unit
Reverse Breakdown Voltage	$V_{(BR)}$	$I_R=100\ \mu\text{A}$	250			V
Forward Voltage	$V_F$	$I_F=100\text{mA}$ $I_F=200\text{mA}$			1.0 1.25	V
Reverse Leakage	$I_R$	$V_R=200\text{V}$			100	nA
Junction Capacitance	$C_j$	$V_R=0\text{V}$ , $f=1.0\text{MHz}$			5.0	pF
Reverse Recover Time	$T_{rr}$				50	nS

RATING AND CHARACTERISTIC CURVES



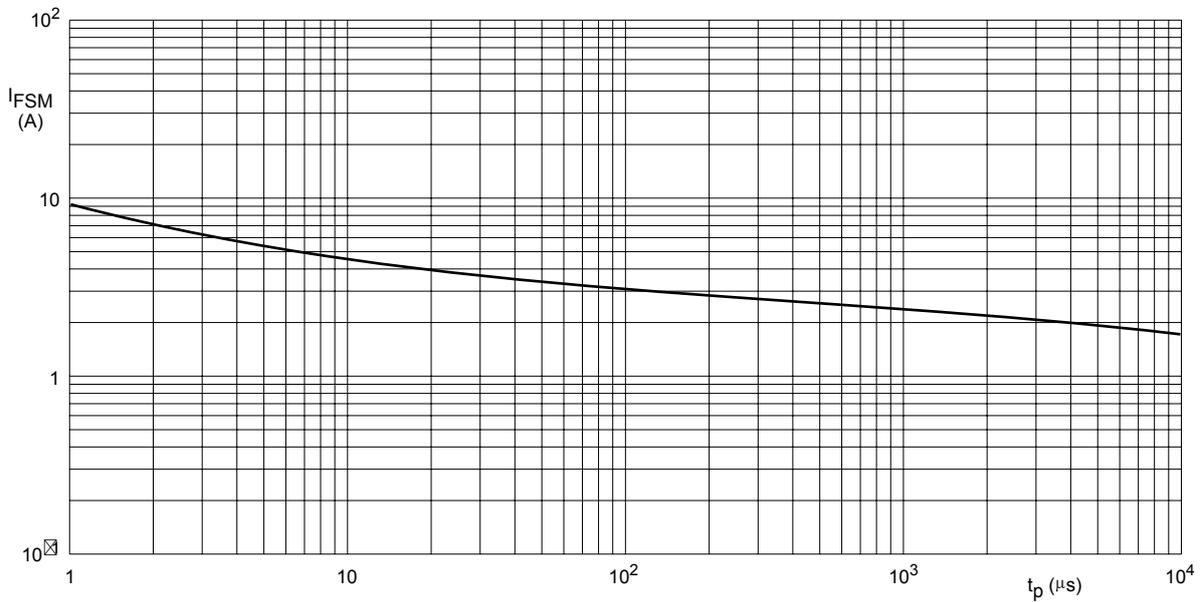
Device mounted on an FR4 printed-circuit board.

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



- (1)  $T_j = 150$  °C; typical values.
- (2)  $T_j = 25$  °C; typical values.
- (3)  $T_j = 25$  °C; maximum values.

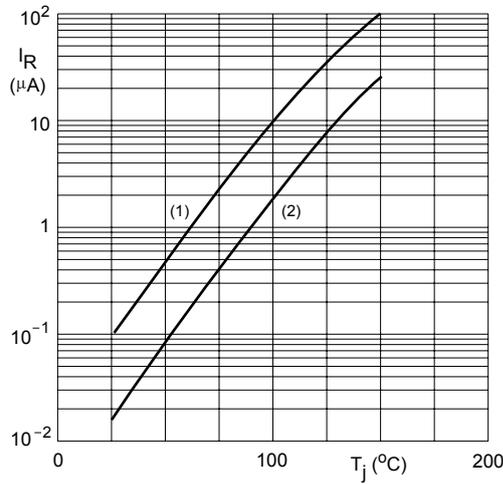
Fig.2 Forward current as a function of forward voltage.



Based on square wave currents.  
 $T_j = 25$  °C prior to surge.

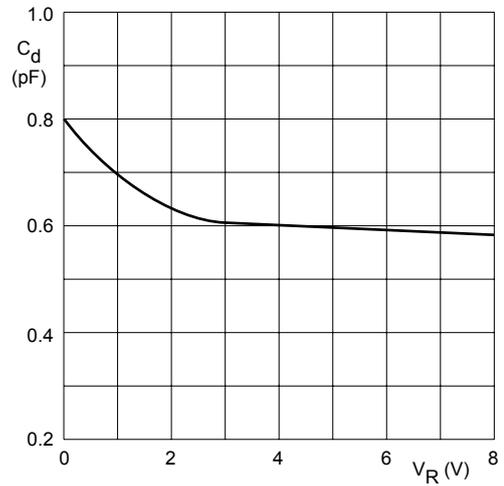
Fig.3 Maximum permissible non-repetitive peak forward current as a function of pulse duration.

RATING AND CHARACTERISTIC CURVES



(1)  $V_R = V_{Rmax}$ ; maximum values.  
(2)  $V_R = V_{Rmax}$ ; typical values.

Fig.5 Reverse current as a function of junction temperature.



$f = 1 \text{ MHz}; T_j = 25 \text{ }^\circ\text{C}$ .

Fig.6 Diode capacitance as a function of reverse voltage; typical values.

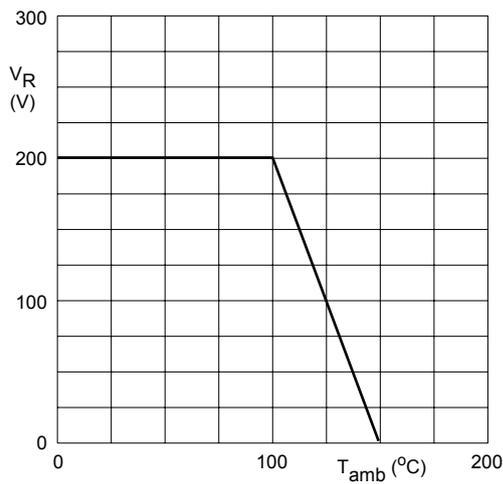
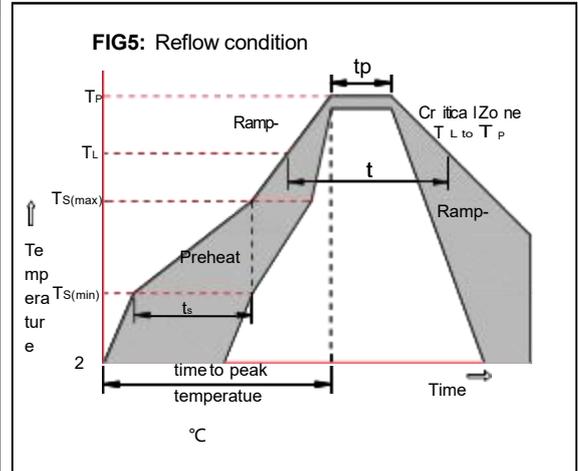


Fig.7 Maximum permissible continuous reverse voltage as a function of the ambient temperature.

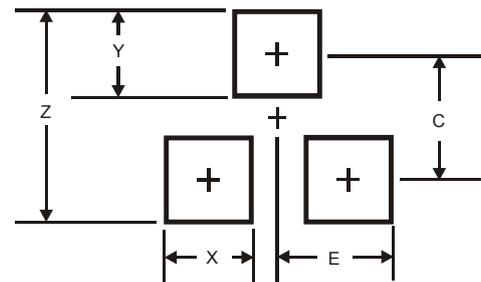
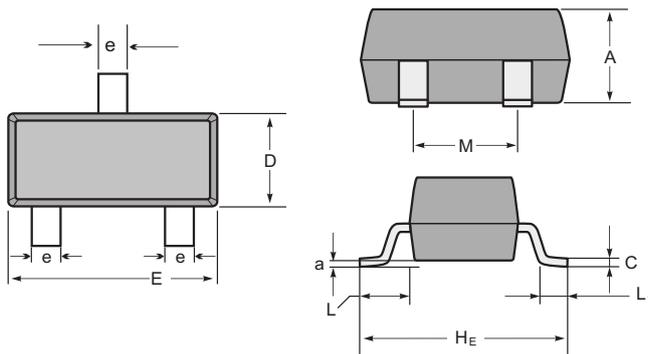
Soldering parameters

Reflow Condition		Pb-Free assembly (see as below)
Pre Heat	-Temperature Min ( $T_{s(min)}$ )	+150 °C
	-Temperature Max ( $T_{s(max)}$ )	+200 °C
	-Time (Min to Max) (ts)	60-180 secs.
Average ramp up rate (Liquid us Temp ( $T_L$ ) to peak)		3 °C/sec. Max
$T_{s(max)}$ to $T_L$ - Ramp-up Rate		3 °C/sec. Max
Reflow	-Temperature ( $T_L$ ) (Liquid us)	+217 °C
	-Temperature ( $t_L$ )	60-150 secs.
Peak Temp ( $T_P$ )		+260(+0/-5) °C
Time within 5 °C of actual Peak Temp ( $t_p$ )		30 secs. Max
Ramp-down Rate		6 °C/sec. Max
Time 25 °C to Peak Temp ( $T_P$ )		8 min. Max
Do not exceed		+260 °C



Package Dimensions & Suggested Pad Layout

SOT23



SOT-23 mechanical data

UNIT	A	C	D	E	HE	e	M	L	L1	a	
mm	max	1.1	0.15	1.4	3.0	2.6	0.5	1.95	0.55 (ref)	0.36 (ref)	0.0
	min	0.9	0.08	1.2	2.8	2.2	0.3	1.7			0.15
mil	max	43	6	55	118	102	20	77	22 (ref)	14 (ref)	0.0
	min	35	3	47	110	87	12	67			6

Dimensions	SOT23
Z	2.9
X	0.8
Y	0.9
C	2.0
E	1.35

Tape & reel specification

Tape		Symbol	Dimension (mm)
		P0	4.00±0.10
		P1	4.00±0.10
		P2	2.00±0.10
		D0	1.55±0.10
		D1	1.05±0.10
		E	1.55±0.10
		F	3.60±0.10
		W	8.00±0.10
		A0	3.80±0.20
		B0	3.25±0.20
		K0	1.45±0.10
		T	0.25±0.05
		D2	178.0±3.0
		D3	55Min.
D4	R24.0±3.0		
G	R82.0±3.0		
I	13.0±2.0		
W1	11.0±3.0		
Quantity: 3000PCS			

7" Reel	