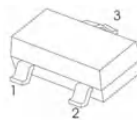


Features

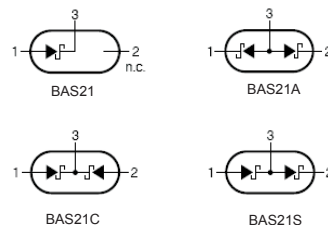
Fast Switching Speed
Surface Mount Package Ideally Suited for Automatic Insertion
High Conductance
For General Purpose Switching Applications

JS X

SOT-23



Equivalent Circuit



MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

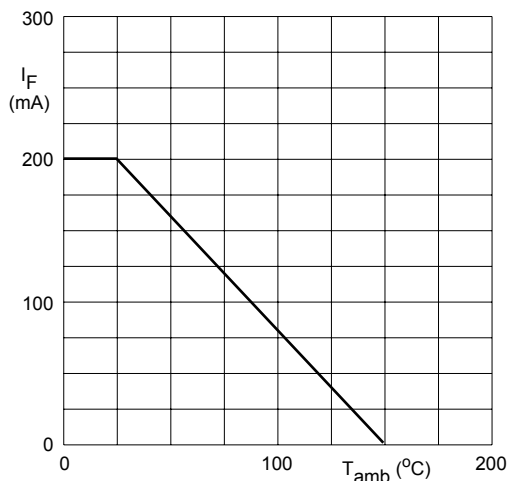
Maximum Ratings

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)

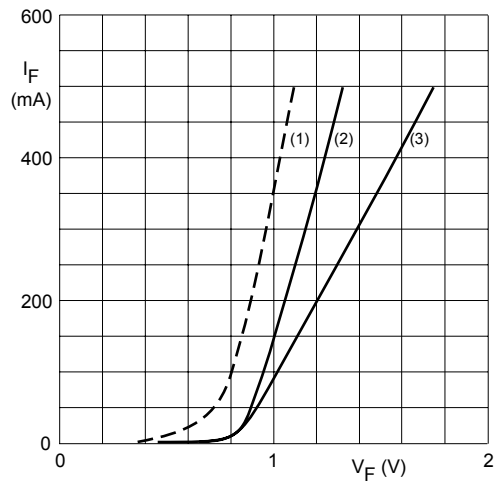
Parameter	Symbol	Testconditions	Min	Typ	Max	Unit
Reverse Breakdown Voltage	$V_{(BR)}$	$I_R=100\ \mu\text{A}$	250			V
Forward Voltage	V_F	$I_F=100\text{mA}$ $I_F=200\text{mA}$			1.0 1.25	V
Reverse Leakage	I_R	$V_R=200\text{V}$			100	nA
Junction Capacitance	C_j	$V_R=0\text{V}$, $f=1.0\text{MHz}$			5.0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

RATING AND CHARACTERISTIC CURVES



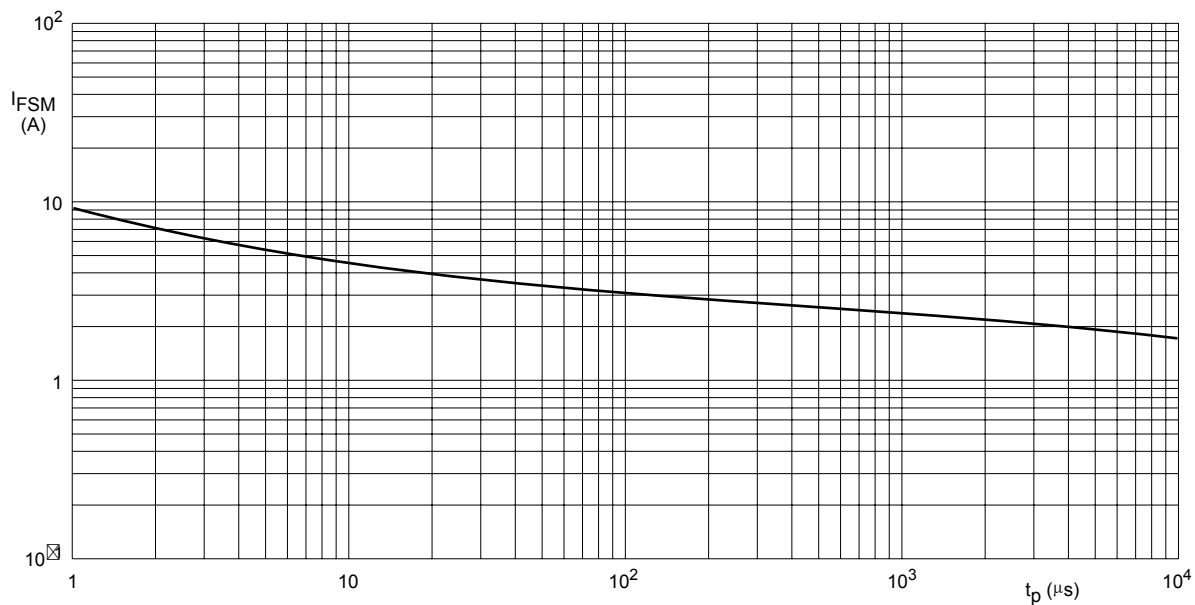
Device mounted on an FR4 printed-circuit board.

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.

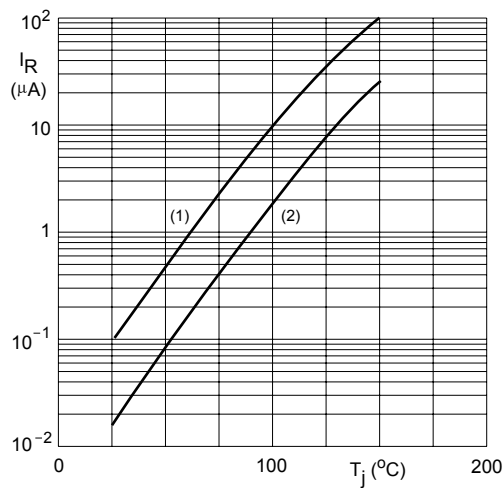
Fig.2 Forward current as a function of forward voltage.



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

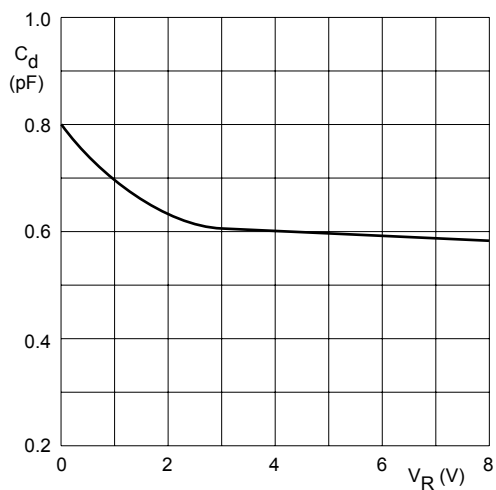
Fig.3 Maximum permissible non-repetitive peak forward current as a function of pulse duration.

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.

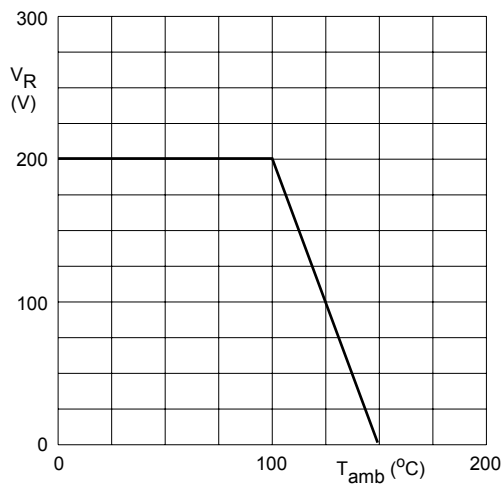
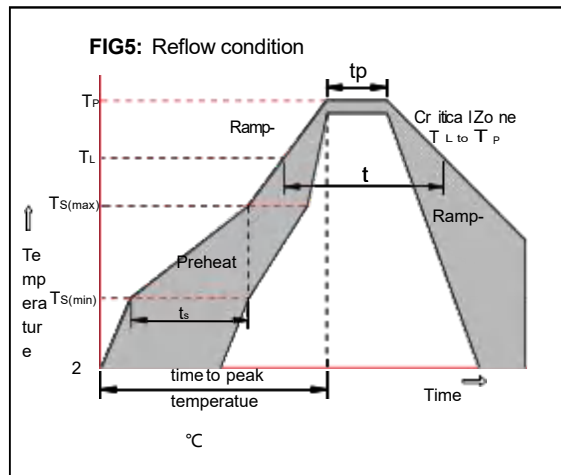


Fig.7 Maximum permissible continuous reverse voltage as a function of the ambient temperature.

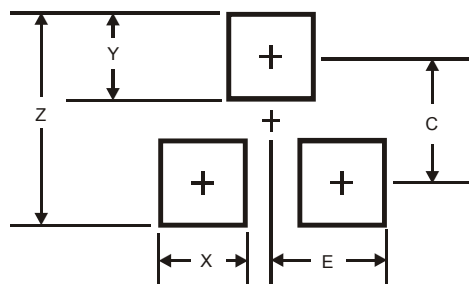
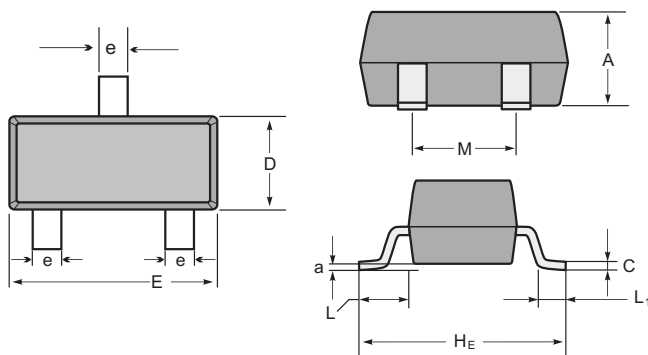
Soldering parameters

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

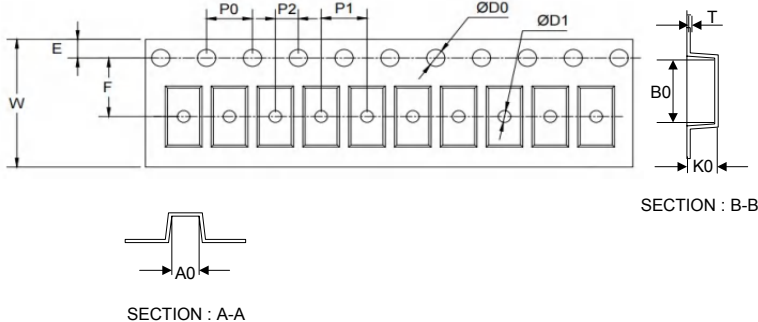
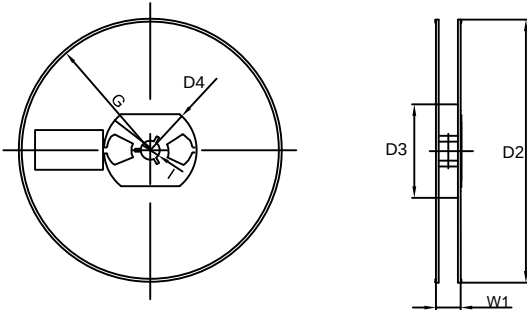


SOT-23 mechanical data

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
7" Reel		G	R82.0±3.0
		I	13.0±2.0
		W1	11.0±3.0
		Quantity: 3000PCS	