

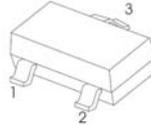


FEATURES

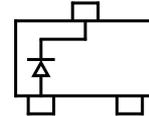
- Fast switching speed.
- For general purpose switching applications.
- High conductance.

$$\begin{array}{ll} V_R & 30 \text{ V} \\ I_D & 0.2 \text{ A} \end{array}$$

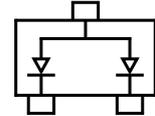
SOT-23



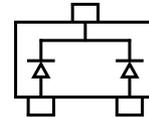
BAT54:KL1



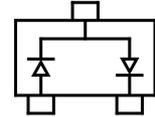
BAT54A:KL2



BAT54C:KL3



BAT54S:KL4



MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

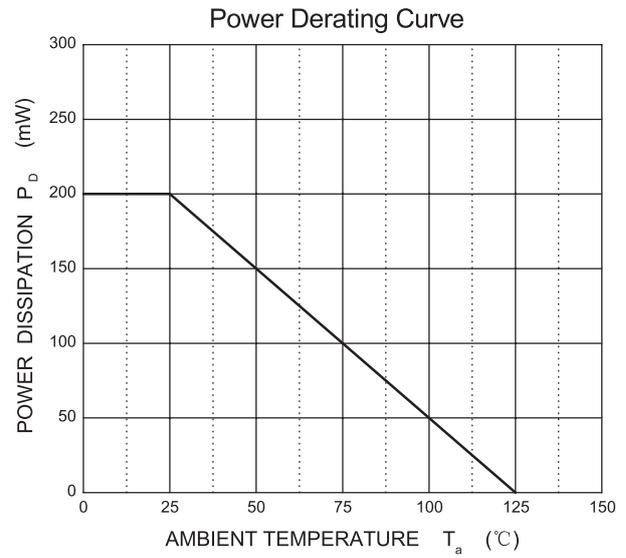
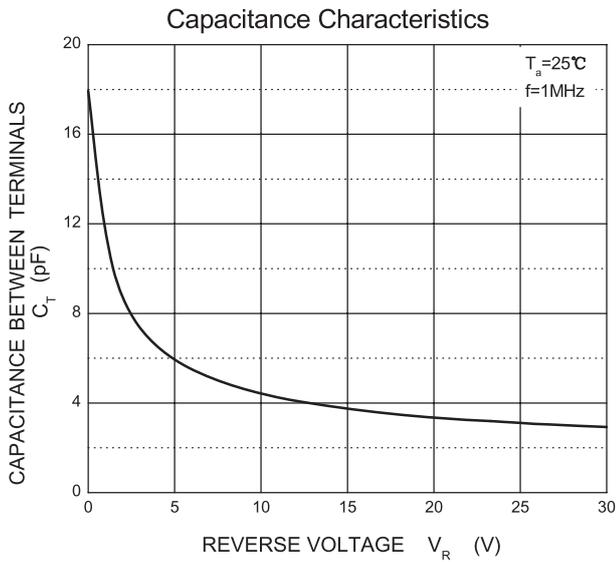
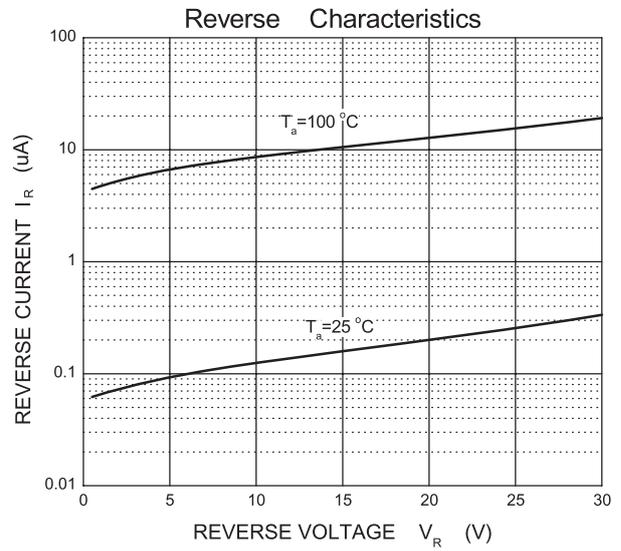
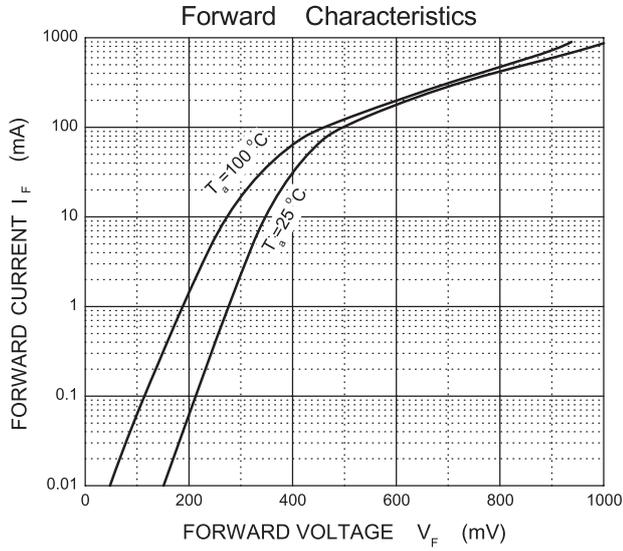
MAXIMUM RATINGS (Ta=25°C unless otherwise noted)

Symbol	Parameter	Value	Unit
V_R	Reverse Voltage	30	V
I_F	Forward Current	0.2	A
$I_{FM(SURGE)}$	Peak Forward Surge Current	0.6	A
P_D	Total Device Dissipation	0.2	W
$R_{\theta JA}$	Thermal Resistance Form Junction to Ambient	500	°C/W
T_J	Junction Temperature	125	°C
T_{STG}	Storage Temperature	-55~+150	°C

ELECTRICAL CHARACTERISTICS (TA = 25°C unless otherwise noted.)

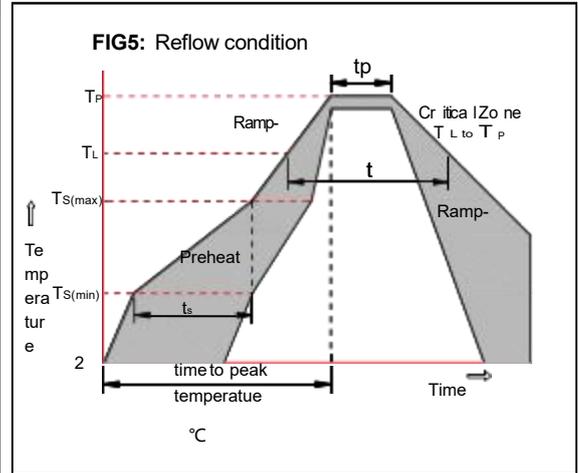
Parameter	Symbol	Test Condition	Min.	Typ.	Max.	Units
Reverse breakdown voltage	$V_{(BR)}$	$I_R=100\mu A$	30			V
Forward voltage	V_{F1}	$I_F=0.1mA$			0.24	V
	V_{F2}	$I_F=1mA$			0.32	V
	V_{F3}	$I_F=10mA$			0.4	V
	V_{F4}	$I_F=30mA$			0.5	V
	V_{F5}	$I_F=100mA$			1	V
Reverse current	I_R	$V_R=25V$			2	μA
Diode capacitance	C_D	$V_R=1V, f=1MHz$			10.0	pF
Reverse recovery time	t_{rr}	$I_F=I_R=10mA,$ $I_{RR}=0.1 \times I_R, R_L=100\Omega$			5	nS

RATING AND CHARACTERISTIC CURVES



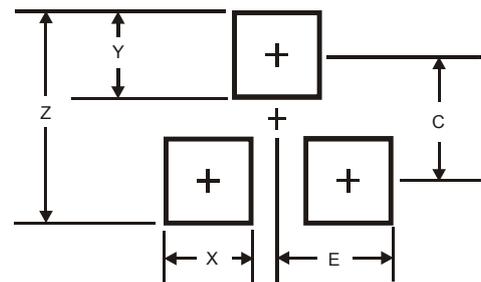
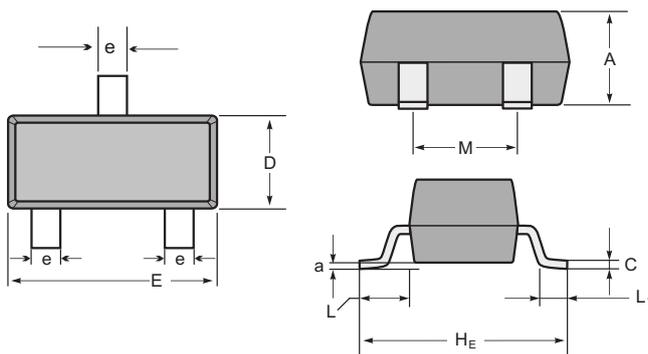
Soldering parameters

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)		
<p>SECTION : A-A</p> <p>SECTION : B-B</p>		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		
		<p>7" Reel</p>		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			