

SuperDiode – 3uS, 250mW SOT-23 Plastic-Encapsulate Switching Diode

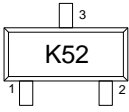
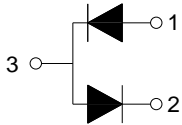
1. Features

- Fast switching device ($T_{rr} < 3\mu s$)
- Power dissipation of 250mW
- High stability and high reliability
- Low reverse leakage

2. Mechanical Data

- SOT-23 Small Outline Plastic Package
- Epoxy UL: 94V-0
- Mounting Position: Any

3. Marking and Circuit

Marking	Circuit
	

4. Specification

Absolute Maximum Rating & Thermal Characteristics

Ratings at 25 °C ambient temperature unless otherwise specified.

Parameters	Symbol	Limit	Unit
Reverse voltage	V_R	85	V
Power Dissipation	P_D	250	mW
Operating junction temperature	T_j	150	°C
Storage temperature range	T_s	-65~150	°C
Forward continuous current	Single diode	160	mA
	Double diode	140	
Peak forward surge current $T_A=25^\circ C$	@tp=1us	4.0	A
	@tp=1ms	1.0	A
	@tp=1.0s	0.5	A
Typical thermal resistance	$R_{\theta JA}$	500	°C/W

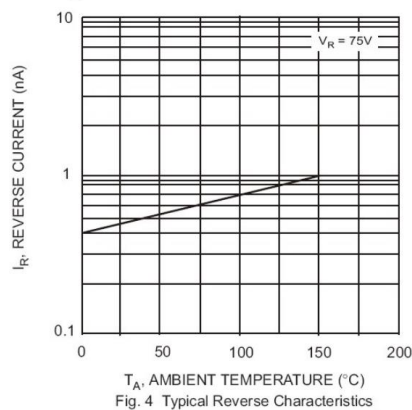
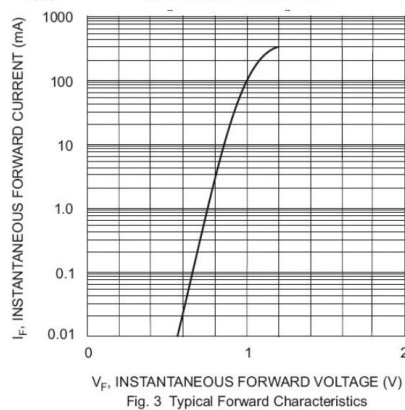
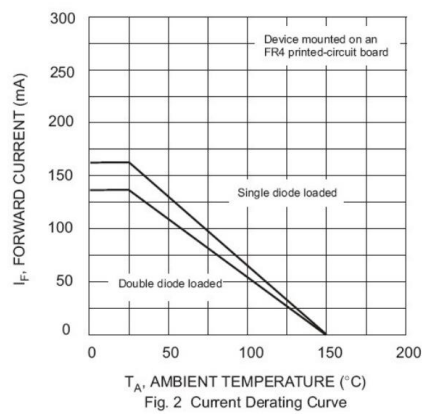
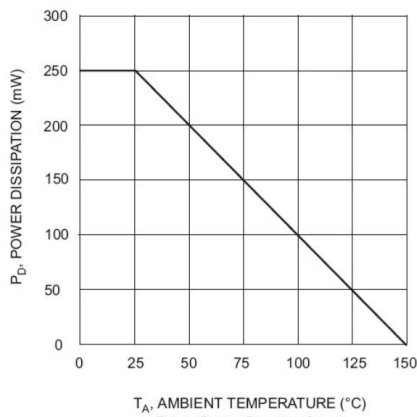
Valid provided that electrodes are kept at ambient temperature.

Electrical Characteristics

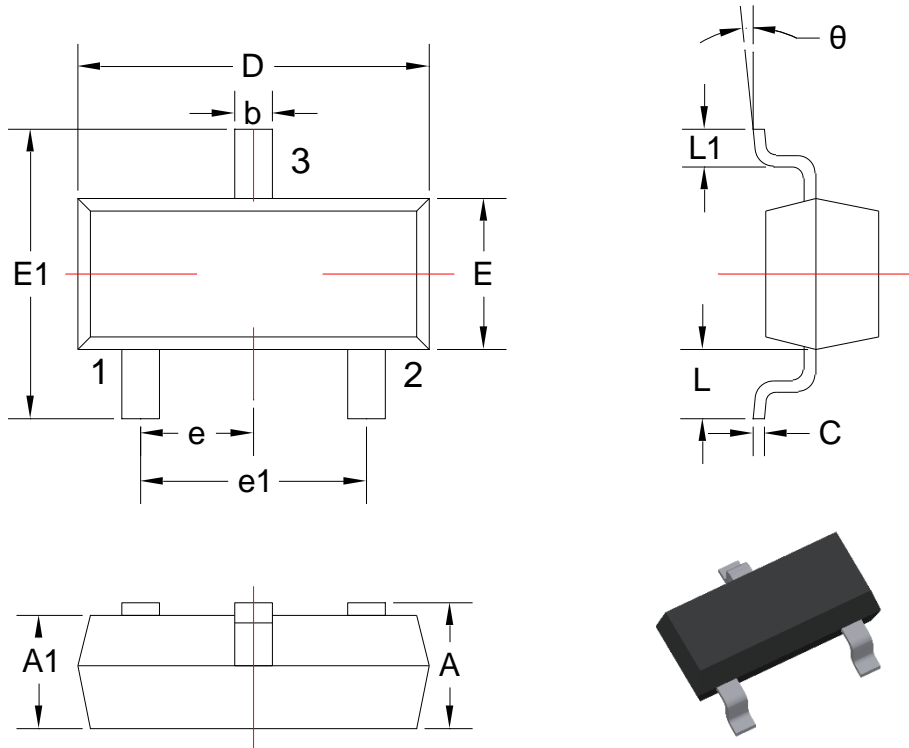
At TA = 25°C unless otherwise specified

Parameter	Symbol	Conditions	Min.	Typ.	Max.	Units
Maximum forward voltage	VF	IF=1mA			0.90	V
		IF=10mA			1.00	
		IF=50mA			1.10	
		IF=150mA			1.25	
Maximum reverse breakdown voltage	VRB	IR=100uA	85			V
Maximum reverse leakage current	IR	VR=75V			5	nA
Type junction capacitance	Cj	VR=1.0V, f=1MHz		2.0		pF
Reverse recovery time	TRR	IF=IR=10mA Irr=0.1 X IR, RL=100Ω			3	us

5. Typical Characteristic

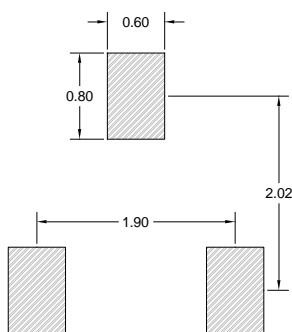


6. Dimension and Patterns (SOT-23)



Units: mm

Symbol	Dimensions		Symbol	Dimensions	
	Min.	Max.		Min.	Max.
A	0.900	1.150	E1	2.250	2.550
A1	0.900	1.050	e	0.950TYP	
b	0.300	0.500	e1	1.800	2.000
c	0.080	0.150	L	0.550REF	
D	2.800	3.00	L1	0.300	0.500
E	1.200	1.400	θ	0°	8°



Note:

1. Controlling dimension: in millimeters
2. General tolerance: ±0.05mm
3. The pad layout is for reference only
4. Unit: mm

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