

SOT-23 Plastic-Encapsulate Switching Diodes

Features

- Very Low Leakage Current
- Low Reverse Recovery Time
- Halogen-free Package
- Surface Mount Package
- Epoxy UL: 94V-0

Applications

- Low Leakage Current Applications
- High Speed Switch Applications



RoHS
COMPLIANT

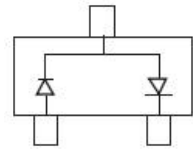
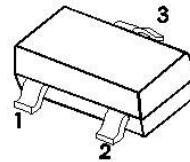


Marking:K52

SOT-23

Pin definition

Equivalent circuit



Maximum Ratings & Electrical Characteristics (T_A=25°C unless otherwise noted)

Parameter	Symbol	Value	Unit
Working Peak Reverse Voltage	V _{RM}	85	V
RMS Reverse Voltage	V _{R(RMS)}	60	V
Reverse Voltage	V _R	85	V
Non-repetitive peak forward current	I _{FM}	125	mA
Repetitive Peak Forward Current	I _{FRM}	500	mA
Non-Repetitive Peak Forward Surge Current	@ t = 1.0s	4	A
	@ t = 1.0ms	1	A
	@ t = 1.0s	0.5	A
Power Dissipation	P _D	150	mW
Thermal Resistance Junction to Ambient Air (Note 1)	R _{θJA}	833	°C/W
Operating and Storage Temperature Range	T _J , T _{STG}	-65 to +150	°C

Electrical Specifications (T_A=25°C unless otherwise noted)

Parameter	Symbol	Test Condition	Min	Typ	Max	Unit
Reverse Breakdown Voltage (Note 3)	V(BR)	I _R = 100uA	85			V
Forward Voltage	V _F	I _F = 1.0mA			0.9	V
		I _F = 10mA			1.0	V
		I _F = 50mA			1.1	V
		I _F = 150mA			1.25	V
Leakage Current (Note 3)	I _R	V _R = 75V			5	nA
		V _R = 75V, T _j = 150°C			80	nA
Diode Capacitance	C _D	V _R = 0, f = 1.0MHz		2		pF
Reverse Recovery Time	T _{RR}	I _F = I _R = 10mA, I _{rr} = 0.1xI _R , R _L = 100Ω			3.0	nS

Notes :

1. Device mounted on FR-4 PC board with recommended pad layout.
2. No purposefully added lead.
3. Short duration test pulse used to minimize self-heating effect.

Ratings and Characteristics Curves

($T_A = 25^\circ\text{C}$ unless otherwise noted)

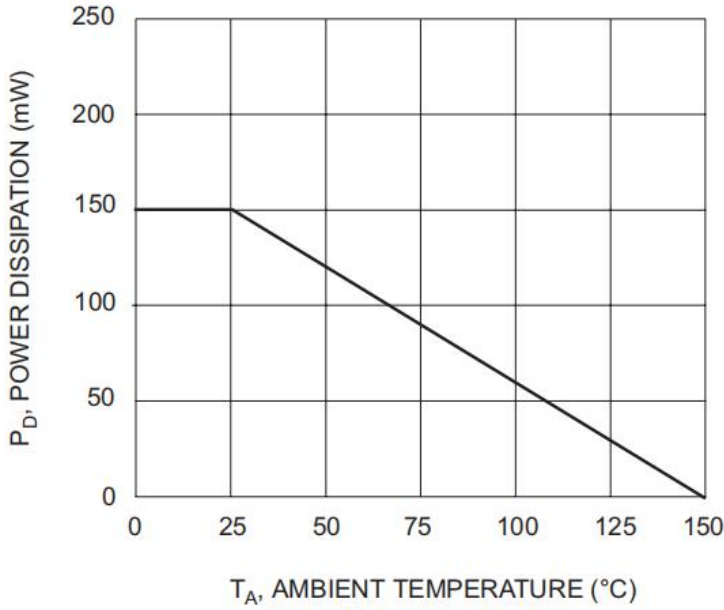


Fig. 1 Power Derating Curve

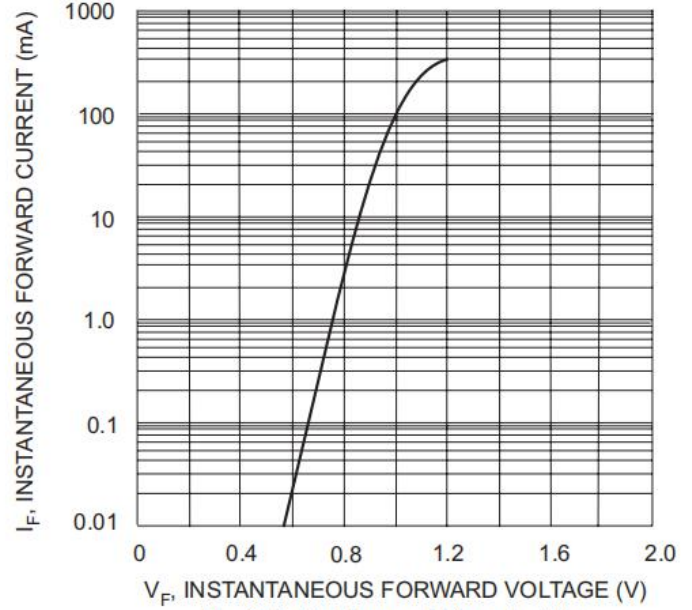


Fig. 2 Typical Forward Characteristics

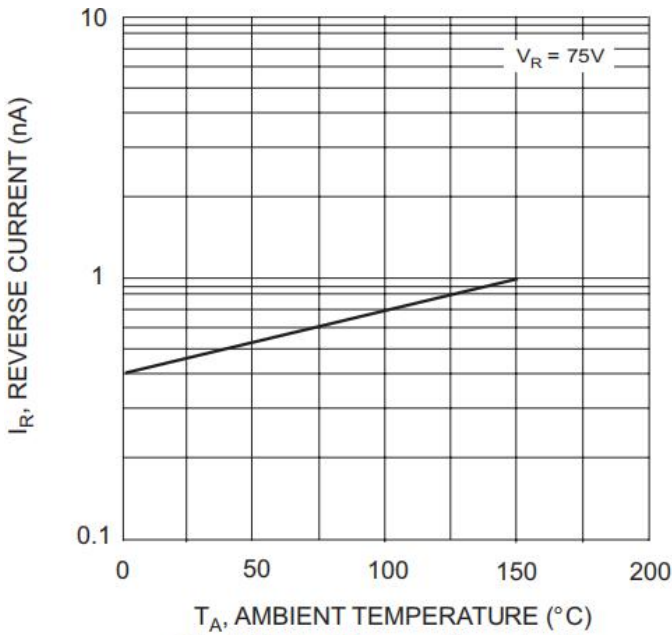


Fig. 3 Typical Reverse Characteristics

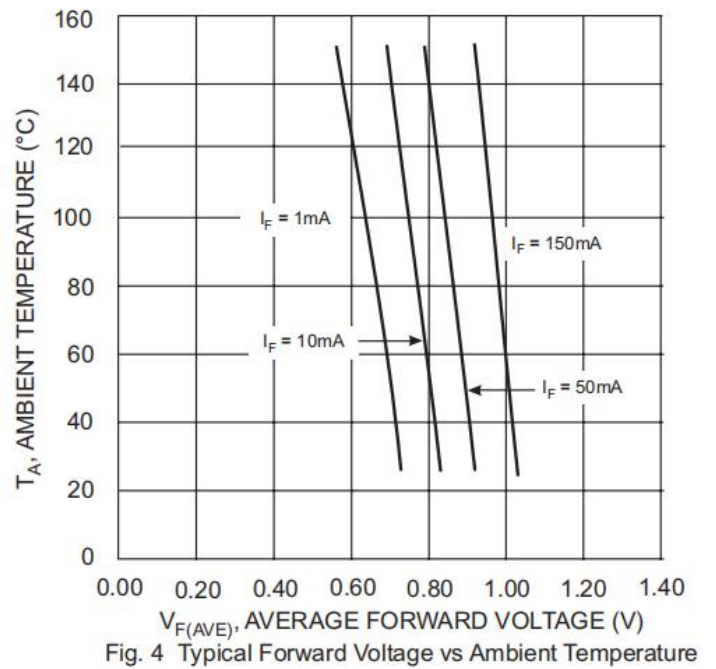
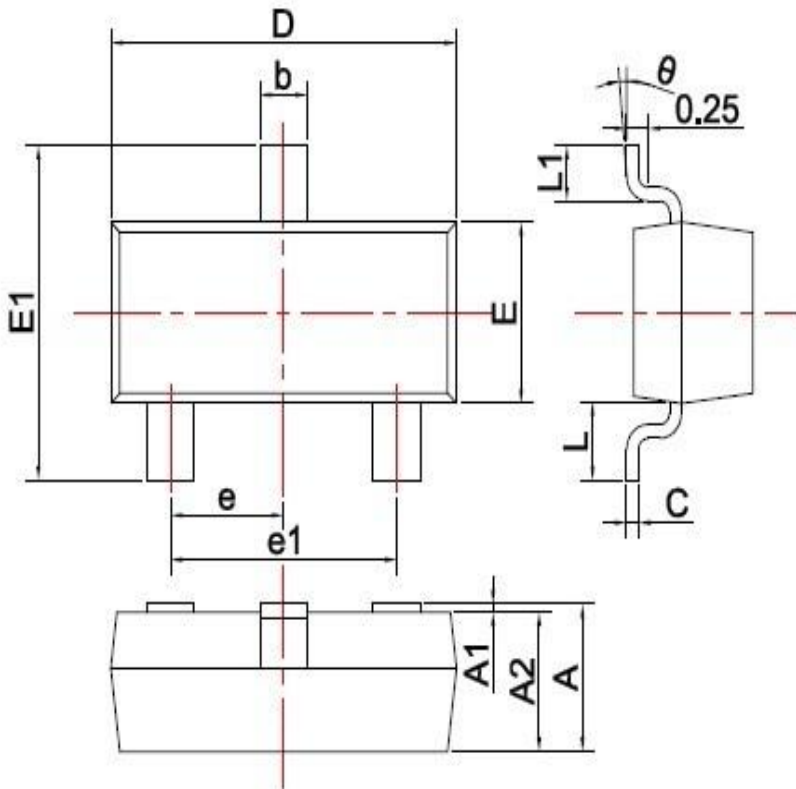


Fig. 4 Typical Forward Voltage vs Ambient Temperature

Package Outline Dimensions

in inches (millimeters)



SYMBOL	DIMENSIONS	
	MIN.	MAX.
A	0.900	1.150
A1	0.000	0.100
A2	0.900	1.050
b	0.300	0.500
c	0.080	0.150
D	2.800	3.000
E	1.200	1.400
E1	2.250	2.550
e	0.950TYP	
e1	1.800	2.000
L	0.550REF	
L1	0.300	0.500
θ	0°	8°

Unit: mm

Revision History

Document Version	Date of release	Description of changes
Rev.A	2018.07.07	First issue

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