

High-Speed Switching Diode

Features

- We declare that the material of product compliance with RoHS requirements.

MAXIMUM RATINGS

Rating	Symbol	Value	Unit
Reverse Voltage	V_R	100	Vdc
Forward Current	I_F	200	mAdc
Peak Forward Surge Current	$I_{FM(surge)}$	500	mAdc

THERMAL CHARACTERISTICS

Characteristic	Symbol	Max	Unit
Total Device Dissipation FR-5 Board (Note 1.) $T_A = 25\text{ C}$ Derate above 25 C	P_D	225	mW
		1.8	mW/ C
Thermal Resistance, Junction to Ambient	$R_{\theta JA}$	556	C/W
Total Device Dissipation Alumina Substrate (Note 2.) $T_A = 25\text{ C}$ Derate above 25 C	P_D	300	mW
		2.4	mW/ C
Thermal Resistance, Junction to Ambient	$R_{\theta JA}$	417	C/W
Junction and Storage Temperature Range	T_J, T_{stg}	-55 to +150	C

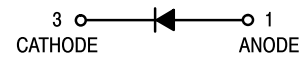
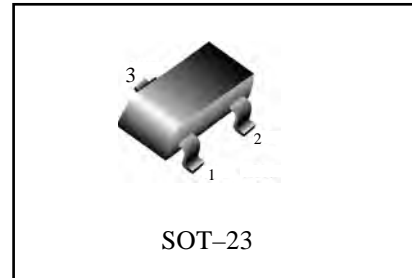
ELECTRICAL CHARACTERISTICS ($T_A = 25\text{ C}$ unless otherwise noted)

Characteristic	Symbol	Min	Max	Unit
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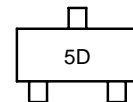
OFF CHARACTERISTICS

Reverse Breakdown Voltage ($I_R = 100\ \mu\text{Adc}$)	$V_{(BR)}$	100	-	Vdc
Reverse Voltage Leakage Current ($V_R = 20\text{ Vdc}$) ($V_R = 75\text{ Vdc}$)	I_R	-	25 5.0	nAdc μAdc
Diode Capacitance ($V_R = 0, f = 1.0\text{ MHz}$)	C_T	-	4.0	pF
Forward Voltage ($I_F = 10\text{ mAdc}$)	V_F	-	1.0	Vdc
Reverse Recovery Time ($I_F = I_R = 10\text{ mAdc}$) (Figure 1)	t_{rr}	-	4.0	ns

1. FR-5 = $1.0 \times 0.75 \times 0.062\text{ in.}$
2. Alumina = $0.4 \times 0.3 \times 0.024\text{ in. } 99.5\% \text{ alumina.}$



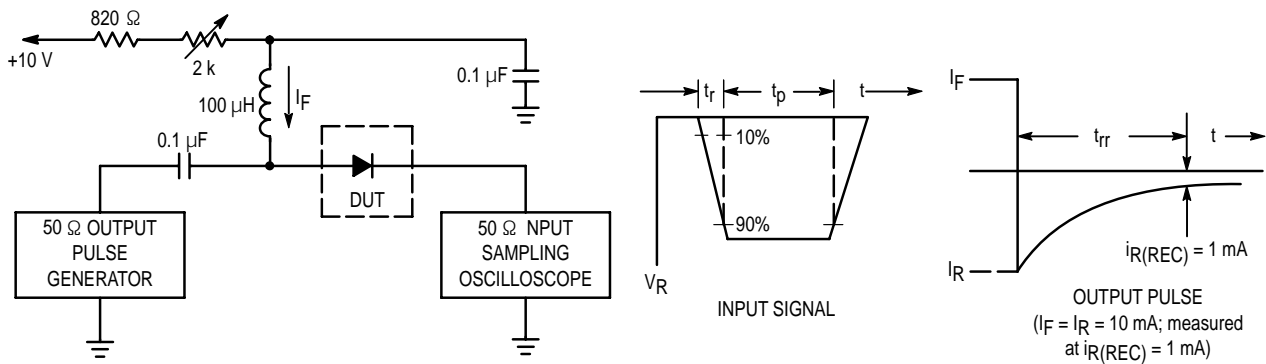
MARKING DIAGRAM



5D = Device Code

ORDERING INFORMATION

Device	Package	Shipping [†]
FDS914LT1G	SOT-23	3000/Tape & Reel
FDS914LT3G	SOT-23	10000/Tape & Reel



- Notes:
1. A 2.0 kΩ variable resistor adjusted for a Forward Current (I_F) of 10 mA.
 2. Input pulse is adjusted so $I_{R(peak)}$ is equal to 10 mA.
 3. $t_p \gg t_{rr}$

Figure 1. Recovery Time Equivalent Test Circuit

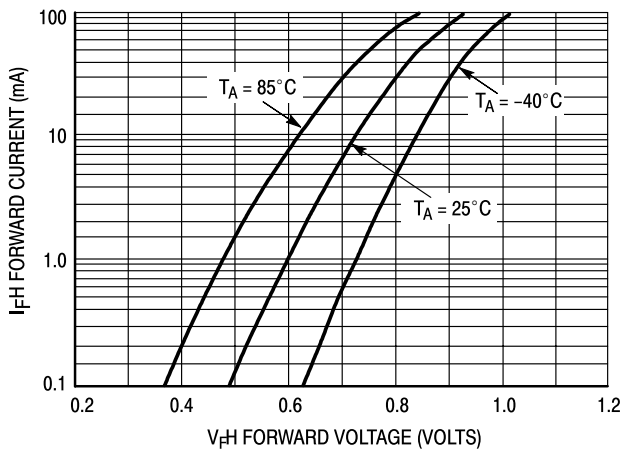


Figure 2. Forward Voltage

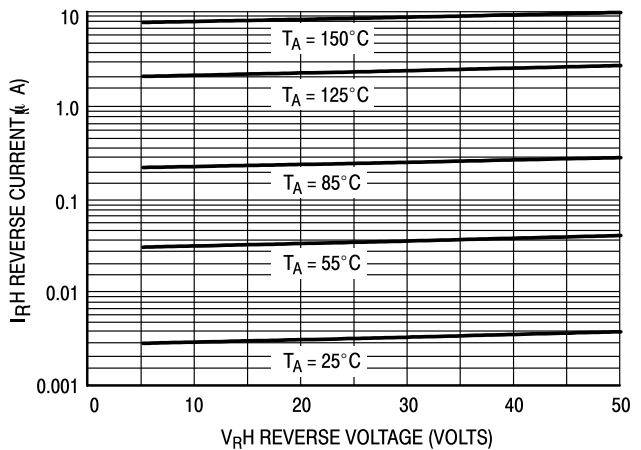


Figure 3. Leakage Current

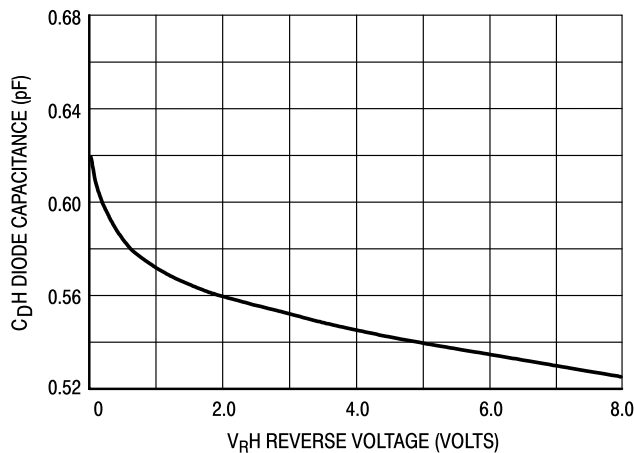
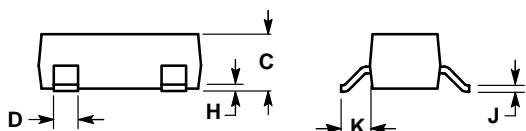
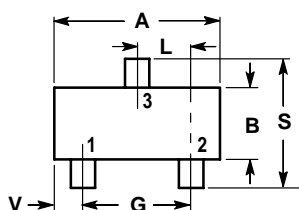


Figure 4. Capacitance

SOT-23



NOTES:

1. DIMENSIONING AND TOLERANCING PER ANSI Y14.5M, 1982.
2. CONTROLLING DIMENSION: INCH.

DIM	INCHES		MILLIMETERS	
	MIN	MAX	MIN	MAX
A	0.1102	0.1197	2.80	3.04
B	0.0472	0.0551	1.20	1.40
C	0.0350	0.0440	0.89	1.11
D	0.0150	0.0200	0.37	0.50
G	0.0701	0.0807	1.78	2.04
H	0.0005	0.0040	0.013	0.100
J	0.0034	0.0070	0.085	0.177
K	0.0140	0.0285	0.35	0.69
L	0.0350	0.0401	0.89	1.02
S	0.0830	0.1039	2.10	2.64
V	0.0177	0.0236	0.45	0.60

- P N 1. ANODE
 2. NO CONNECTION
 3. CATHODE

