

HIGH VOLTAGE SWITCHING DIODE

- **Applications**

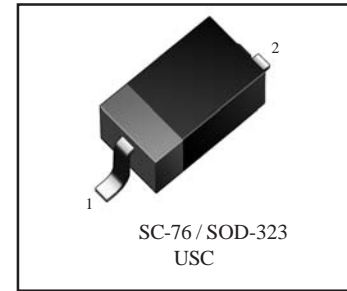
High speed switching

- **Features**

- 1) Small surface mounting type.
- 2) High Speed. ($t_{rr} = 50\text{ns max.}$)
- 3) High reliability with high surge current handing capability.

- **Construction**

Silicon epitaxial planar



- **Device Marking and Ordering Information**

Device	Marking	Shipping
FDS21	JS	3000/Tape&Reel

MAXIMUM RATINGS

Rating	Symbol	Value	Unit
Continuous Reverse Voltage	V_R	250	Vdc
Peak Forward Current	I_F	200	mAdc
Peak Forward Surge Current	$I_{FM(surge)}$	625	mAdc

THERMAL CHARACTERISTICS

Characteristic	Symbol	Max	Unit
Total Device Dissipation FR-5 Board,* $T_A = 25^\circ\text{C}$ Derate above 25°C	P_D	200	mW
Thermal Resistance Junction to Ambient	$R_{\theta JA}$	635	$^\circ\text{C/W}$
Junction and Storage Temperature Range	T_J, T_{stg}	-55 to+150	$^\circ\text{C}$

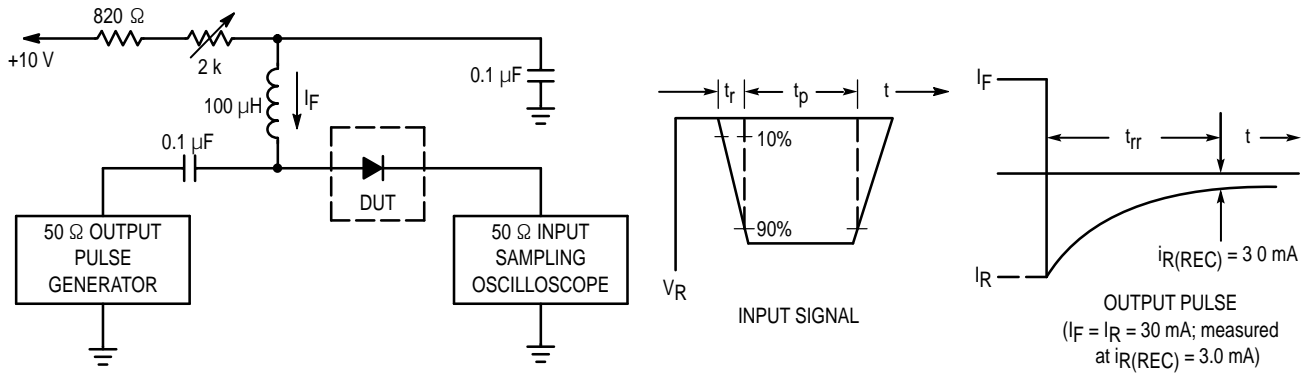
*FR-5 Minimum Pad

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

Characteristic	Symbol	Min	Max	Unit
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OFF CHARACTERISTICS

Reverse Voltage Leakage Current ($V_R = 200\text{ Vdc}$) ($V_R = 200\text{ Vdc}, T_J = 150^\circ\text{C}$)	I_R	–	1.0 100	μAdc
Reverse Breakdown Voltage ($I_{BR} = 100\ \mu\text{Adc}$)	$V_{(BR)}$	250	–	Vdc
Forward Voltage ($I_F = 100\text{ mAdc}$) ($I_F = 200\text{ mAdc}$)	V_F	–	1000 1250	mV
Diode Capacitance ($V_R = 0, f = 1.0\text{ MHz}$)	C_D	–	5.0	pF
Reverse Recovery Time ($I_F = I_R = 30\text{ mAdc}, R_L = 100\ \Omega$)	t_{rr}	–	50	ns



- Notes: 1. A 2.0 kΩ variable resistor adjusted for a Forward Current (I_F) of 30 mA.
 2. Input pulse is adjusted so $I_{R(\text{peak})}$ is equal to 30 mA.
 3. $t_p \gg t_{rr}$

Figure 1. Recovery Time Equivalent Test Circuit

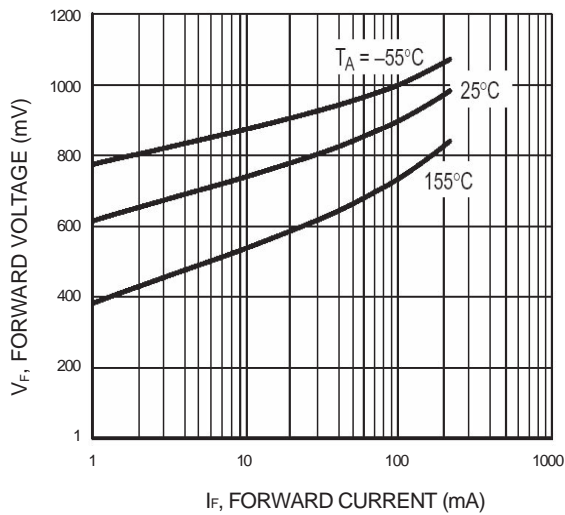


Figure 2. Forward Voltage

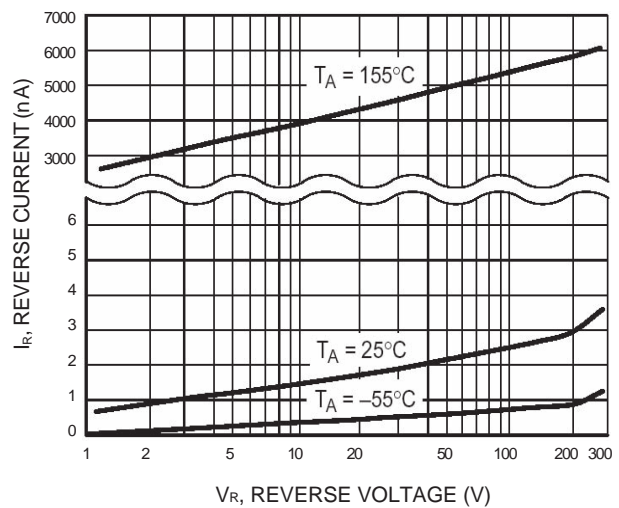
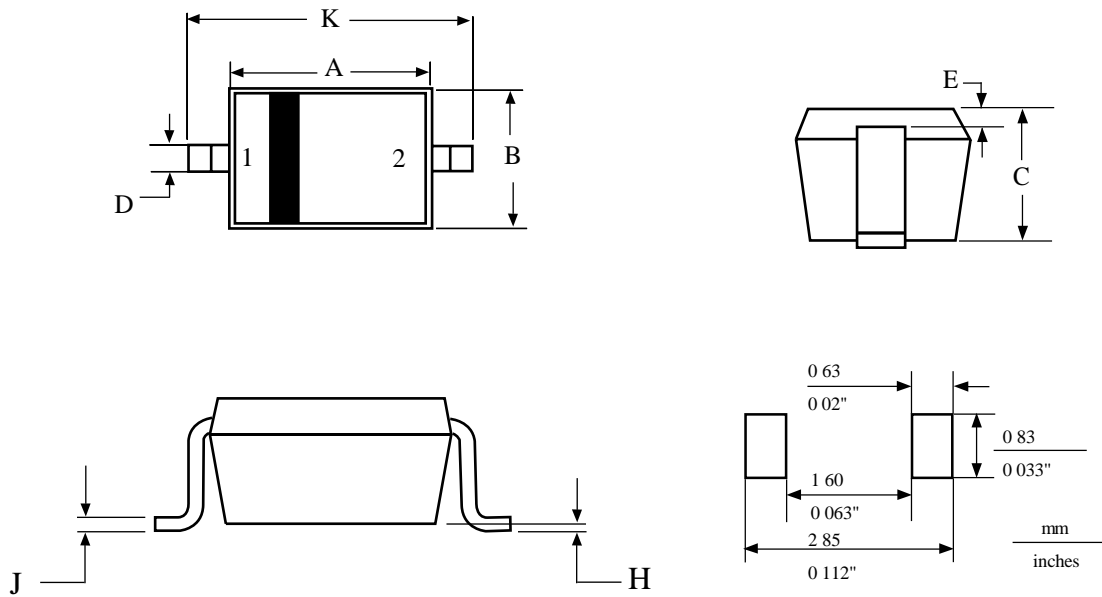


Figure 3. Reverse Leakage

SC-76 / SOD-323



NOTES:

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

DIM	MILLIMETERS		INCHES	
	MIN	MAX	MIN	MAX
A	1.60	1.80	0.063	0.071
b	1.15	1.35	0.045	0.053
C	0.80	1.00	0.031	0.039
D	0.25	0.40	0.010	0.016
E	0.15 REF		0.006 REF	
H	0.00	0.10	0.000	0.004
J	0.089	0.177	0.0035	0.0070
K	2.30	2.70	0.091	0.106

PIN:1:CATHODE
2:ANODE