Surface Mount Switching Diode

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CDST7000

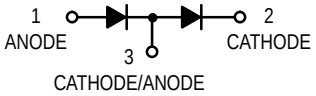
Voltage: 100 Volts
Current: 200 mA

Features

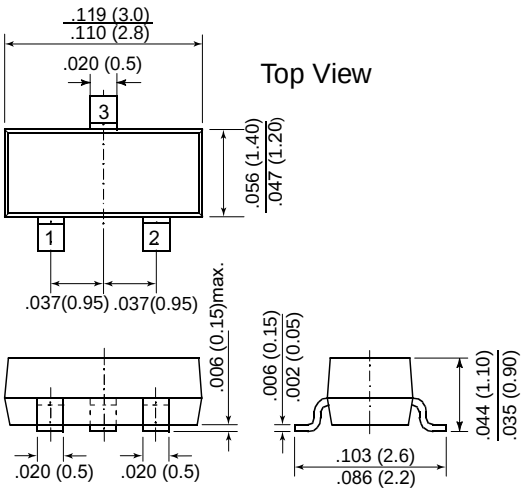
- Fast Switching Speed
- Surface Mount Package Ideally Suited for Automatic Insertion
- For General Purpose Switching Applications
- High Conductance

Mechanical data

- Case: SOT-23, Plastic
- Terminals: Solderable per MIL-STD-202, Method 208
- Approx. Weight: 0.008 gram



SOT-23



Dimensions in inches (millimeters)

Maximum Ratings

Rating	Symbol	Value	Units
Continuous Reverse Voltage	V_R	100	V_{DC}
Peak Forward Current	I_F	200	mAdc
Peak Forward Surge Current	$I_{FM\ (surge)}$	500	mAdc

Thermal Characteristics

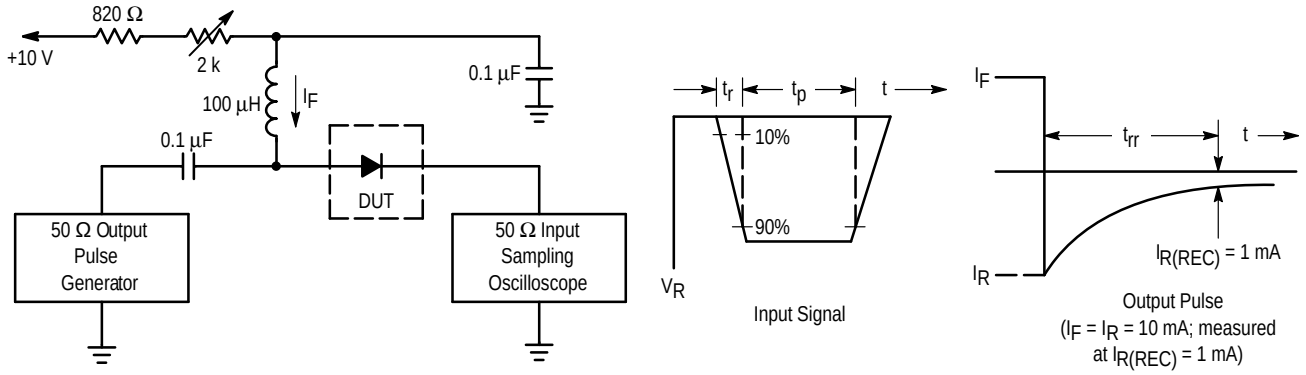
Characteristic	Symbol	Max	Units
Total Device Dissipation FR– 5 Board(1) T_A = 25°C	P_D	225	mW
Derate above 25°C		1.8	mW/°C
Thermal Resistance, Junction to Ambient	$R_{\theta JA}$	556	°C/W
Total Device Dissipation Alumina Substrate,(2) T_A = 25°C	P_D	300	mW
Derate above 25°C		2.4	mW/°C
Thermal Resistance,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

Electrical Characterics (TA = 25°C unless otherwise noted)

Characteristic (OFF CHARACTERISTICS)		Symbol	Min	Max	Units
Reverse Breakdown Voltage ($I_{(BR)}$ = 100 uAdc)		$V_{(BR)}$	100	-	Vdc
Reverse Voltage Leakage Current	V_R = 50 Vdc	I_R	-	1	uAdc
	V_R = 100 Vdc	I_{R2}	-	3	
	V_R = 50 Vdc, 125°C	I_{R3}	-	100	
Forward Voltage	I_F = 1.0 mAdc	V_F	0.55	0.7	Vdc
	I_F = 10 mAdc		0.67	0.82	
	I_F = 100 mAdc		0.75	1.1	
Reverse Recovery Time (I_F = I_R = 10 mAdc) (Figure 1)		Trr		4.0	nS
Diode Capacitance (V_R = 0)		C	-	1.5	pF

1.FR–5 = 1.0 X 0.75X 0.062 in. 2.Alumina = 0.4X 0.3X 0.024 in. 99.5% alumina.

Rating and Characteristic Curves (CDST7000)



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

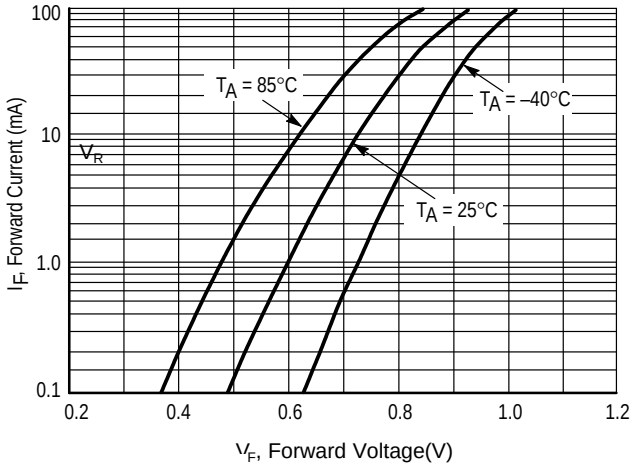


Figure 2. Forward Voltage

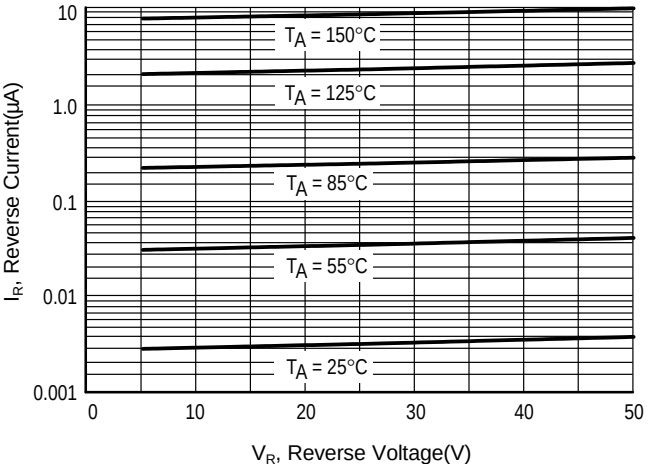


Figure 3. Leakage Current

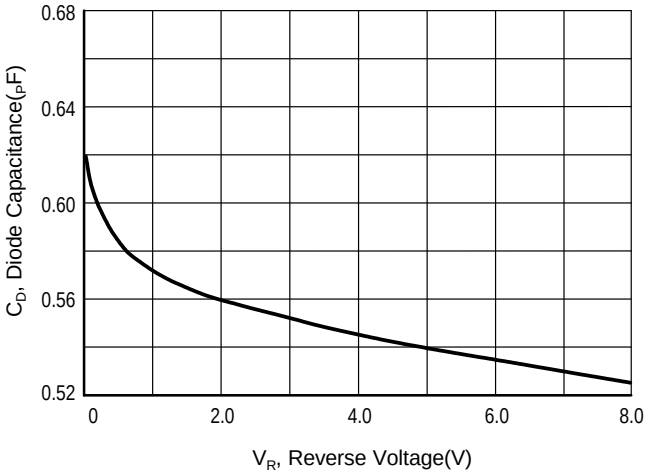


Figure 4. Capacitance