

Surface Mount Switching Diode

COMCHIP
SMD DIODE SPECIALIST

CDST7000-G

Voltage: 100 Volts
Current: 200 mA

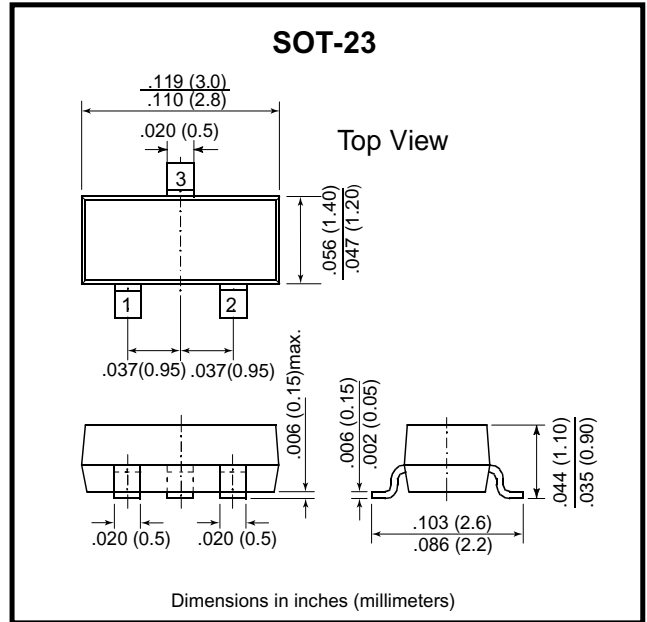
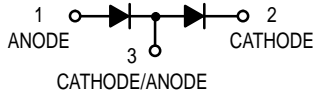


Features

- 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-750, Method 208
- Approx. Weight: 0.008 gram



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

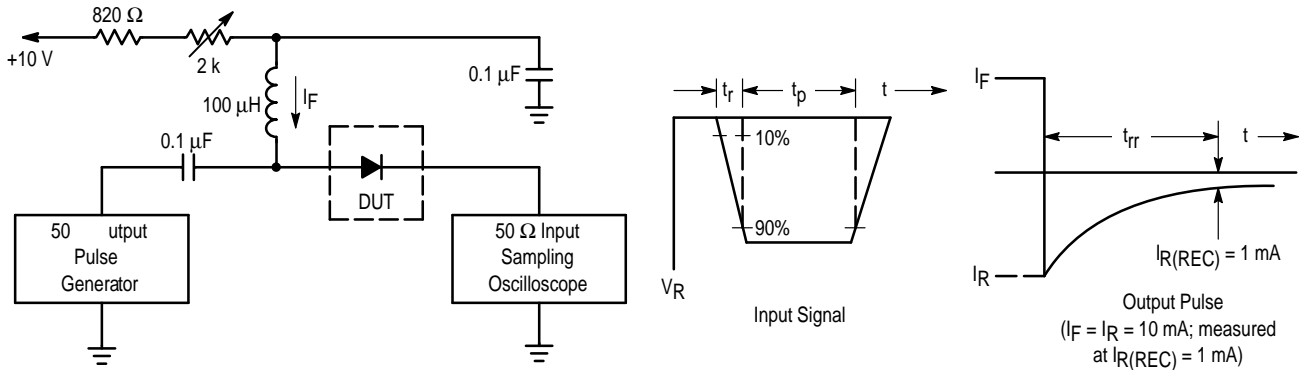
Characteristic	Symbol	Max	Units
Total Device Dissipation FR-5 Board(1) $T_A = 25^\circ\text{C}$	P_D	225	mW
Derate above 25°C		1.8	mW/ $^\circ\text{C}$
Thermal Resistance, Junction to Ambient	R_{JA}	556	$^\circ\text{C}/\text{W}$
Total Device Dissipation Alumina Substrate,(2) $T_A = 25^\circ\text{C}$	P_D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

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

Characteristic (OFF CHARACTERISTICS)	Symbol	Min	Max	Units
Reverse Breakdown Voltage ($I_{(BR)} = 100 \mu\text{Adc}$)	$V_{(BR)}$	100	-	Vdc
Reverse Voltage Leakage Current $V_R = 50 \text{ Vdc}$	I_R	-	1	μAdc
	I_{R2}	-	3	
	I_{R3}	-	100	
Forward Voltage $I_F = 1.0 \text{ mAdc}$	V_F	0.55	0.7	Vdc
	V_F	0.67	0.82	
	V_F	0.75	1.1	
Reverse Recovery Time ($I_F = I_R = 10 \text{ mAdc}$) (Figure 1)	T_{rr}		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-G)



- 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

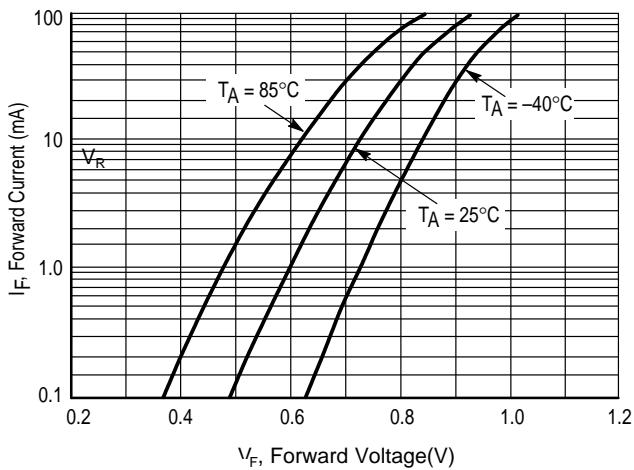


Figure 2. Forward Voltage

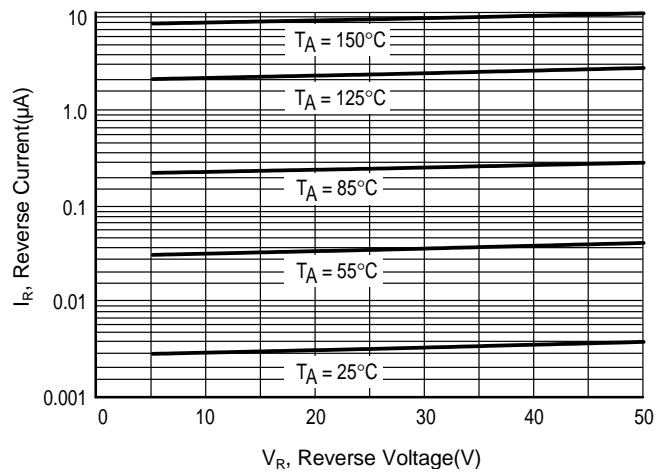


Figure 3. Leakage Current

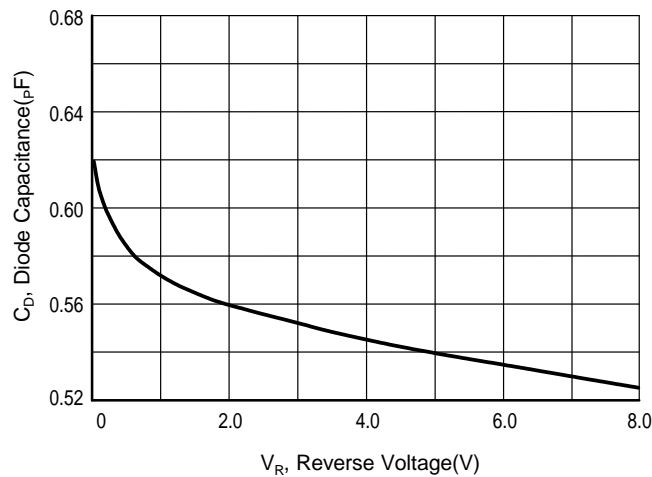


Figure 4. Capacitance