

Surface Mount Switching Diode

COMCHIP
www.comchiptech.com

CDST7000

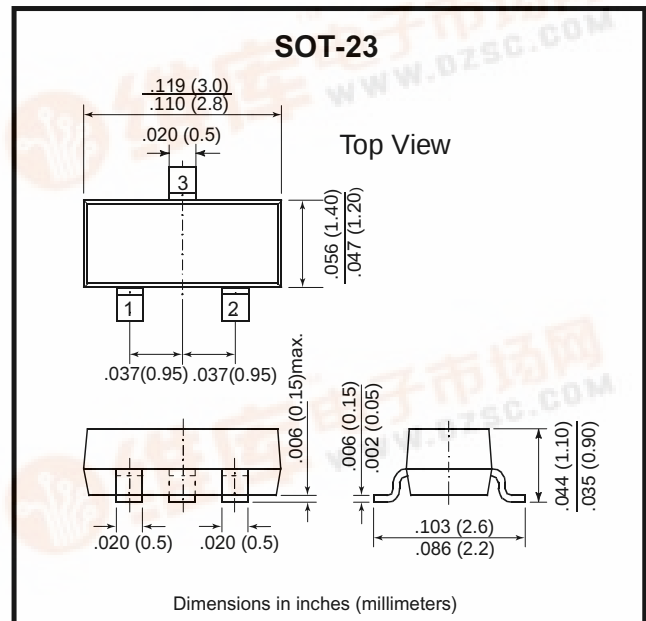
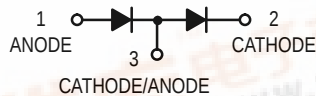
Voltage: 100 Volts
Current: 200 mA

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



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

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

Characteristic (OFF CHARACTERISTICS)	Symbol	Min	Max	Units
Reverse Breakdown Voltage ($I_{BR} = 100 \mu A_{dc}$)	$V_{(BR)}$	100	-	Vdc
Reverse Voltage Leakage Current $V_R = 50 V_{dc}$	I_R	-	1	μA_{dc}
$V_R = 100 V_{dc}$	I_{R2}	-	3	μA_{dc}
$V_R = 50 V_{dc}, 125^\circ C$	I_{R3}	-	100	μA_{dc}
Forward Voltage $I_F = 1.0 mA_{dc}$	V_F	0.55	0.7	Vdc
$I_F = 10 mA_{dc}$		0.67	0.82	
$I_F = 100 mA_{dc}$		0.75	1.1	
Reverse Recovery Time ($I_F = I_R = 10 mA_{dc}$) (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)

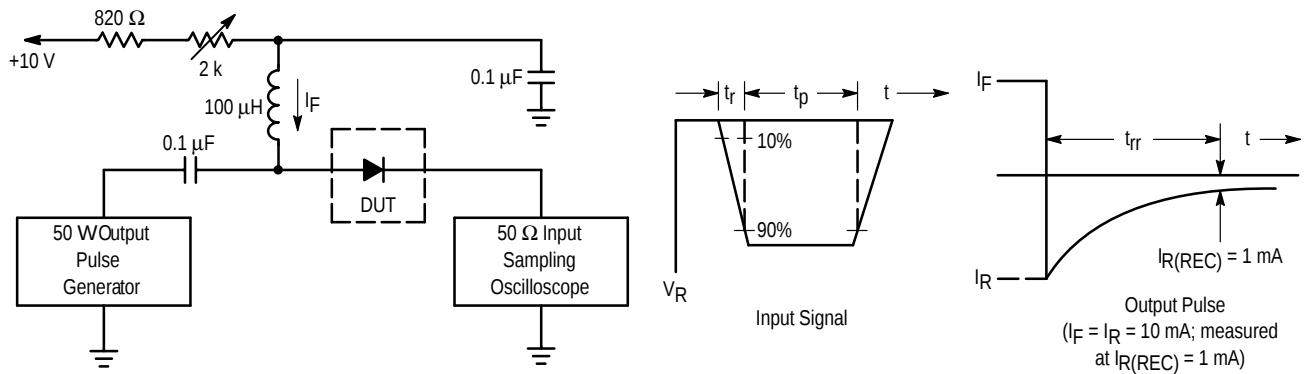


Figure 1. Recovery Time Equivalent Test Circuit

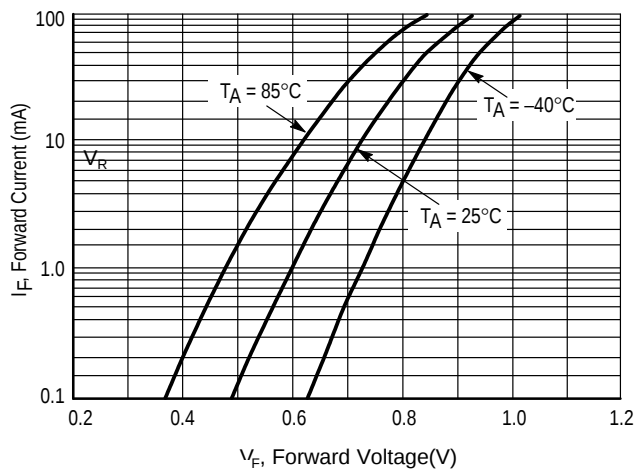


Figure 2. Forward Voltage

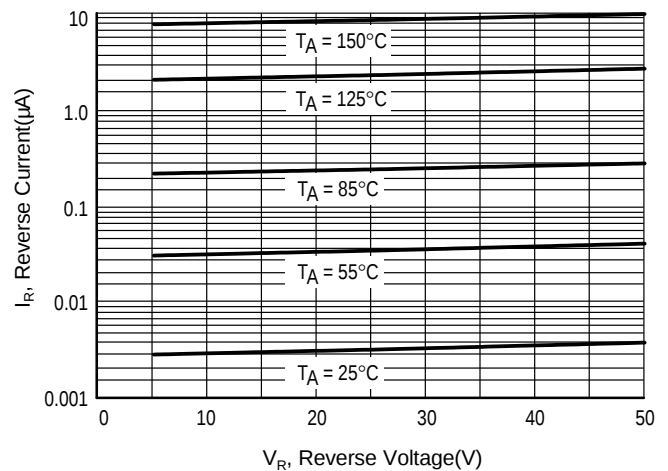


Figure 3. Leakage Current

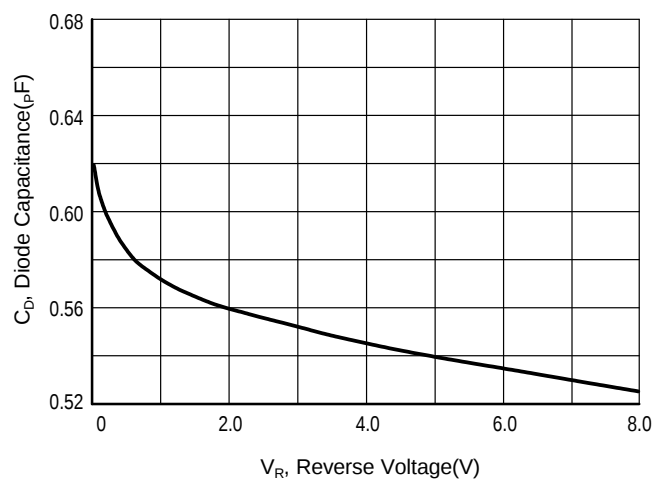


Figure 4. Capacitance