



## SURFACE MOUNT SWITCHING DIODE

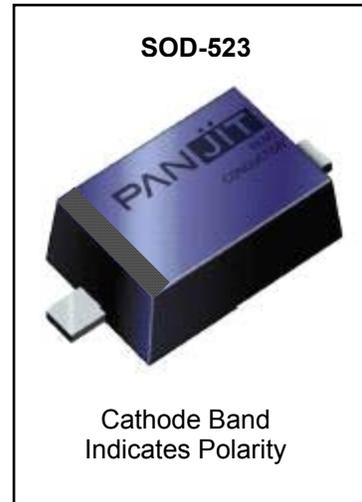
This device is an extremely fast switching diode housed in the ultra-small SOD-523 package. Ideal for applications where board space is at a

### FEATURES

- Extremely fast reverse recovery time to reduce switching losses
- Very low capacitance for reduced insertion losses
- Reverse voltage rating of 80V
- Also available in lead-free plating (100% matte tin finish)

### APPLICATIONS

- Mobile phones and accessories
- Hand-held computers
- High Speed Switching Applications



Marking Code: 14

### MAXIMUM RATINGS $T_J = 25^{\circ}\text{C}$ Unless otherwise noted

Rating	Symbol	Value	Units
Peak Reverse Voltage	$V_{RM}$	90	V
Continuous Reverse Voltage	$V_R$	80	V
Continuous Forward Current	$I_F$	225	mA
Non-repetitive Peak Forward Current, $t = 1\text{sec}$ , Square Wave	$I_{FSM}$	500	mA
Total Power Dissipation (Note 1)	$P_{tot}$	200	mW
Operating Junction Temperature Range	$T_J$	-55 to +150	$^{\circ}\text{C}$
Storage Temperature Range	$T_{stg}$	-55 to +150	$^{\circ}\text{C}$

Note 1. FR-5 Board 1.0 x 0.75 x 0.062 in.

### THERMAL CHARACTERISTICS

Characteristic	Symbol	Value	Units
Thermal Resistance, Junction to Ambient	$R_{thja}$	625	$^{\circ}\text{C}/\text{W}$

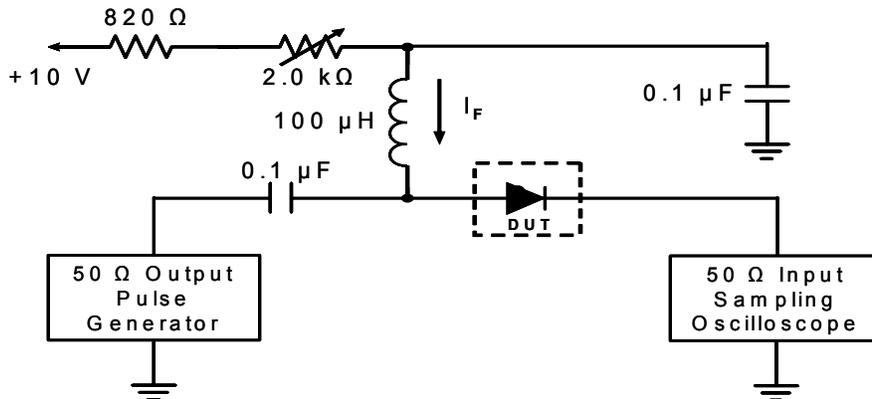


## ELECTRICAL CHARACTERISTICS

T<sub>j</sub> = 25°C Unless otherwise noted

Parameter	Symbol	Conditions	Min	Typ	Max	Units
Forward Voltage (Note 2)	V <sub>F</sub>	I <sub>F</sub> = 100mA	-	-	1.2	V
Reverse Leakage Current	I <sub>R</sub>	V <sub>R</sub> = 80V	-	-	0.1	uA
Junction Capacitance	C <sub>D</sub>	0.5Vdc Bias, f = 1 MHz	-	0.7	2.0	pF
Reverse Recovery Time (See Figure 1)	t <sub>rr</sub>	I <sub>F</sub> = 10mA, I <sub>R</sub> = 10mA R <sub>L</sub> = 100 Ohms; measured at I <sub>Rrec</sub> = 1mA	-	-	4.0	ns

Note 2. Short duration pulse test to avoid self-heating effect



- Notes: 1. A 2.0kΩ variable resistor adjusted for a forward current (I<sub>F</sub>) to 10mA  
 2. Input pulse is adjusted to I<sub>R(peak)</sub> is equal to 10mA

**Figure 1. REVERSE RECOVERY TIME EQUIVALENT TEST CIRCUIT**



## TYPICAL CHARACTERISTIC CURVES

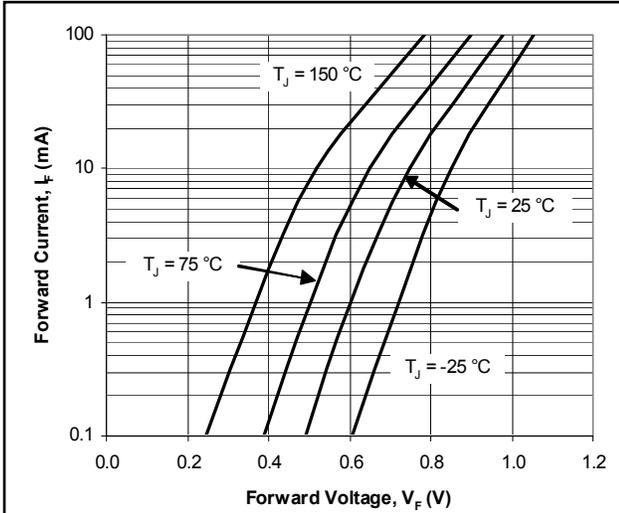


Fig. 2. Typical Forward Characteristics

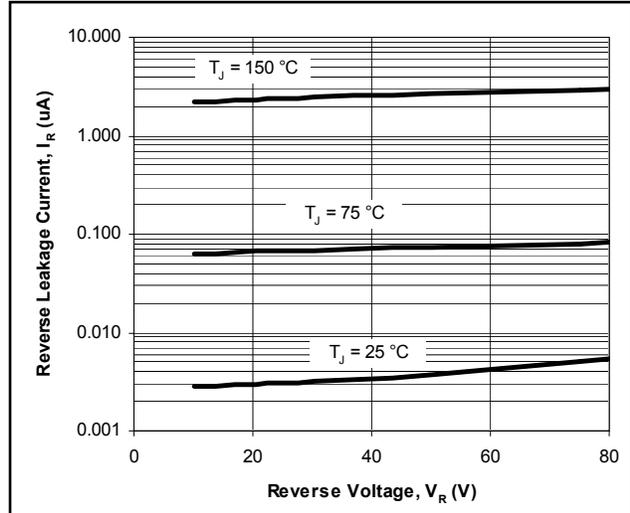


Fig. 3. Typical Reverse Characteristics

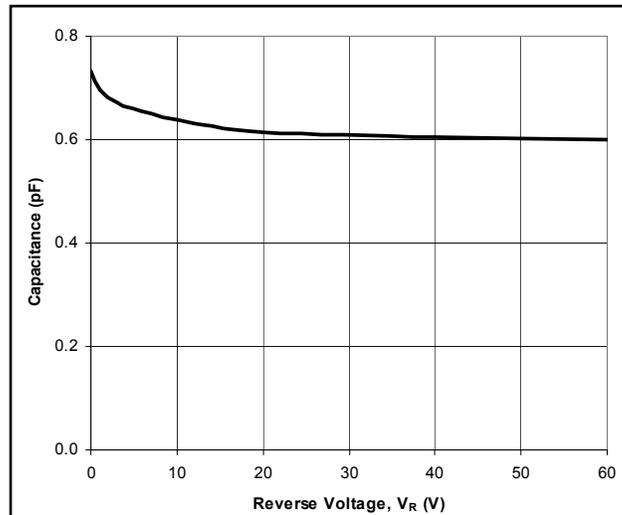
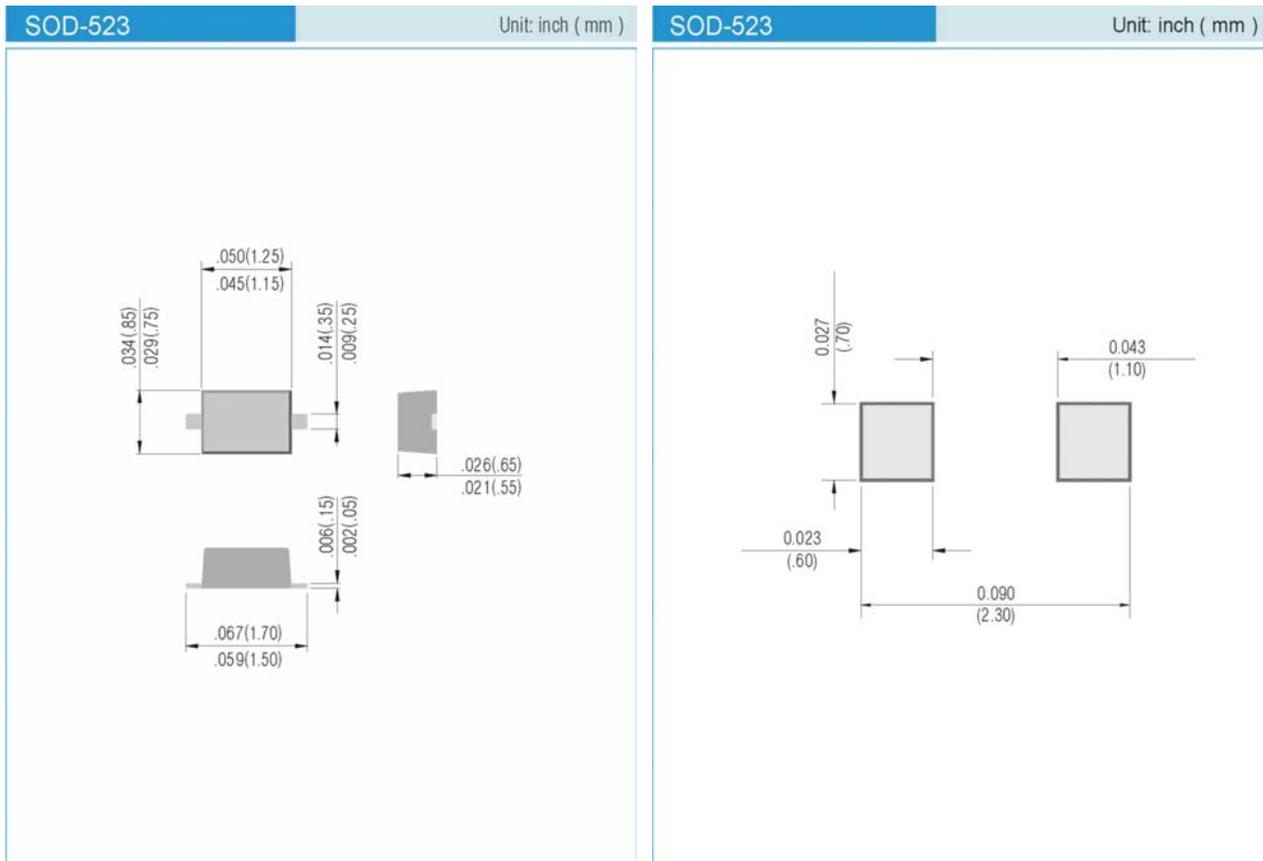


Fig. 4. Typical Capacitance



## PACKAGE LAYOUT AND SUGGESTED PAD DIMENSIONS



### ORDERING INFORMATION

1SS400 T/R7 - 7" reel, 3K units per reel

1SS400 T/R13 - 13" reel, 10K units per reel

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