



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	$^\circ\text{C/W}$

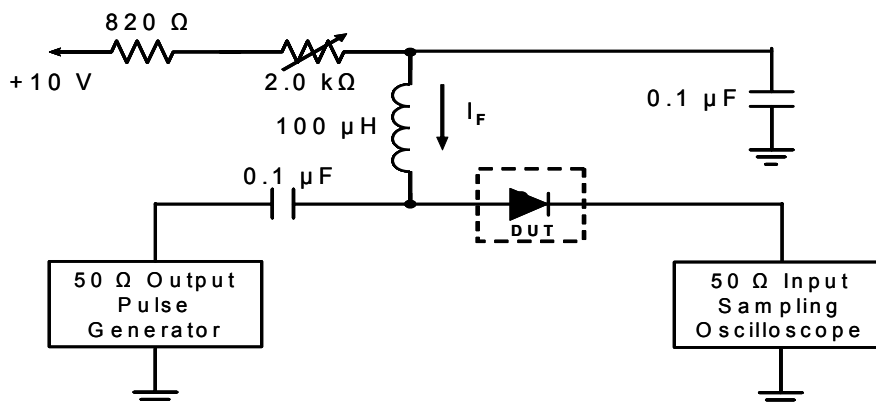


ELECTRICAL CHARACTERISTICS

T_j = 25°C Unless otherwise noted

Parameter	Symbol	Conditions	Min	Typ	Max	Units
Forward Voltage (Note 2)	V _F	I _F = 100mA	-	-	1.2	V
Reverse Leakage Current	I _R	V _R = 80V	-	-	0.1	uA
Junction Capacitance	C _D	0.5Vdc Bias, f = 1 MHz	-	0.7	2.0	pF
Reverse Recovery Time (See Figure 1)	t _{rr}	I _F = 10mA, I _R = 10mA R _L = 100 Ohms; measured at I _{Rrec} = 1mA	-	-	4.0	ns

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

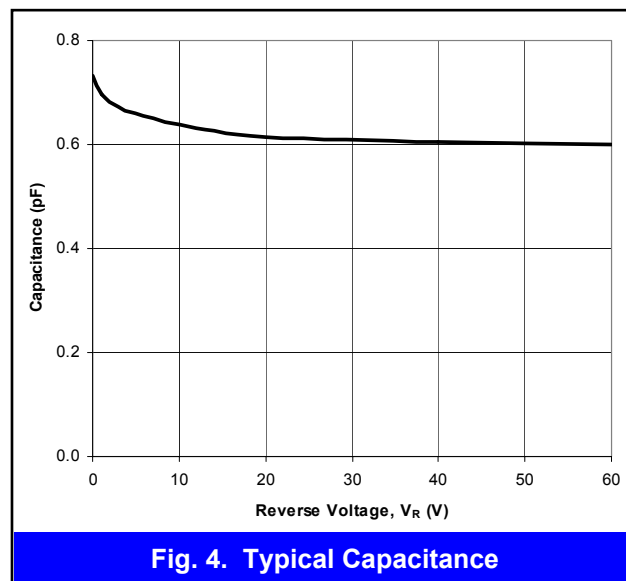
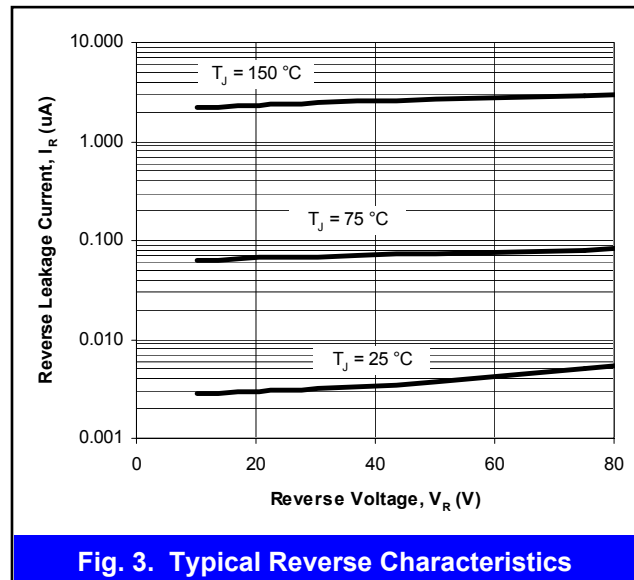
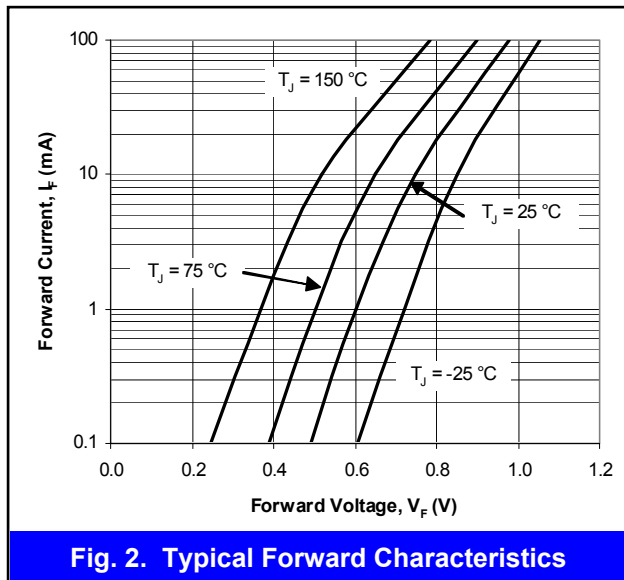


- Notes: 1. A 2.0kΩ variable resistor adjusted for a forward current (I_F) to 10mA
2. Input pulse is adjusted to I_{R(peak)} is equal to 10mA

Figure 1. REVERSE RECOVERY TIME EQUIVALENT TEST CIRCUIT

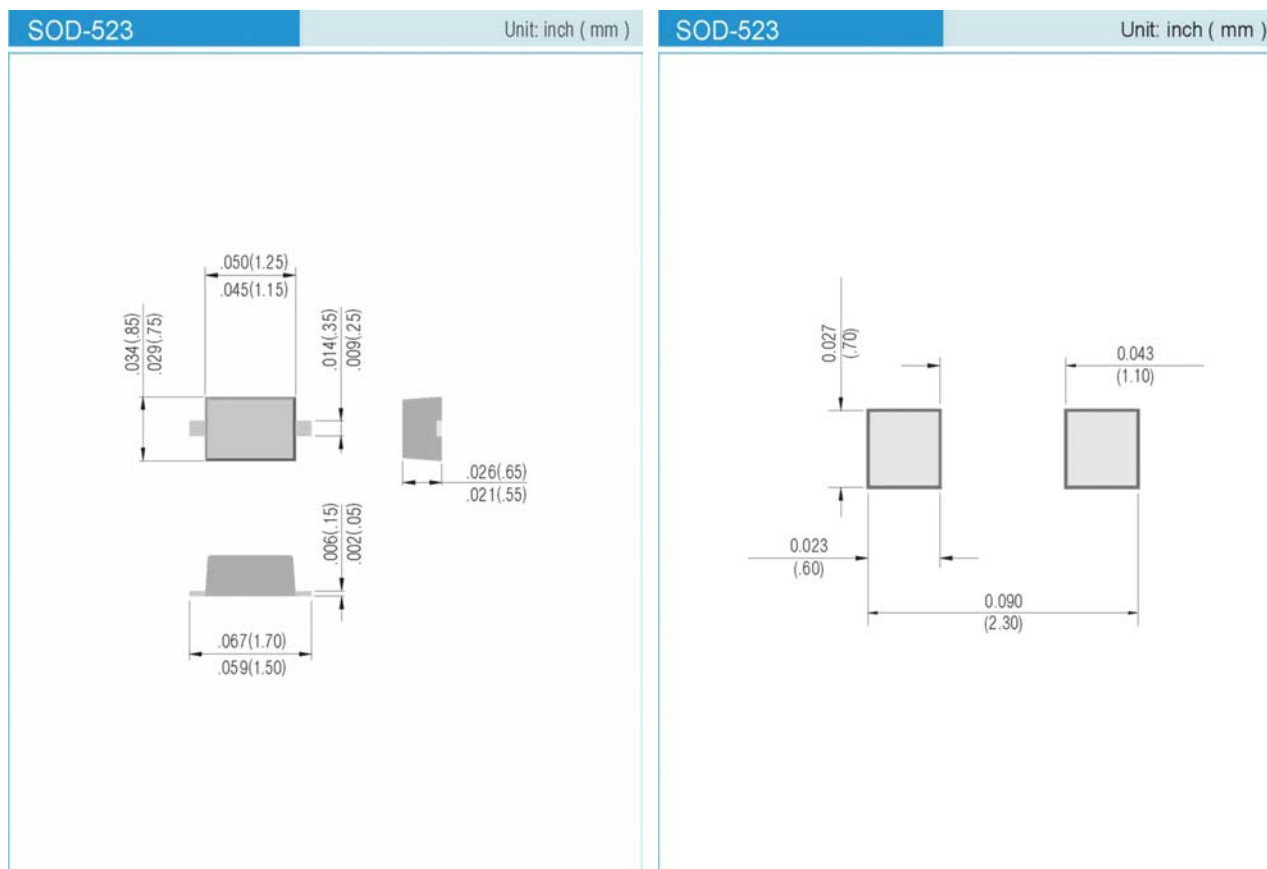


TYPICAL CHARACTERISTIC CURVES





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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