

## Silicon Pin Switching Diode

This switching diode is designed primarily for VHF band switching applications but is also suitable for use in general-purpose switching circuits. It is supplied in a SOD-123 Surface Mount package.

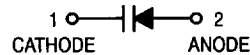
- Rugged PIN Structure Coupled with Wirebond Construction for Optimum Reliability
- Low Capacitance — 0.85 pF Typ at  $V_R = 3.0$  Volts
- Very Low Series Resistance at 100 MHz — 0.36 Ohms (Typ)  
@  $I_F = 10$  mAdc
- Available in 8 mm Tape and Reel  
Use BA582T1 to order the 7 inch/3,000 unit reel  
Use BA582T3 to order the 13 inch/10,000 unit reel

**BA582T1**

Motorola Preferred Device



CASE 425, STYLE 1  
SOD-123



### MAXIMUM RATINGS

Rating	Symbol	Value	Unit
Reverse Voltage	$V_R$	35	Vdc
Forward Power Dissipation @ $T_A = 25^\circ\text{C}$ Derate above $25^\circ\text{C}$	$P_F$	200 2.0	mW mW/ $^\circ\text{C}$
Junction Temperature	$T_J$	+125	$^\circ\text{C}$
Storage Temperature Range	$T_{stg}$	-55 to +150	$^\circ\text{C}$

### DEVICE MARKING

BA582T1 = S

### ELECTRICAL CHARACTERISTICS ( $T_A = 25^\circ\text{C}$ unless otherwise noted)

Characteristic	Symbol	Min	Typ	Max	Unit
Reverse Breakdown Voltage ( $I_R = 10 \mu\text{A}$ )	$V_{(BR)R}$	35	—	—	Volts
Diode Capacitance $V_R = 1.0$ V $V_R = 3.0$ V	$C_T$	— —	— —	1.4 1.1	pF
Series Resistance ( $f = 100$ MHz) $I_F = 3.0$ mA $I_F = 10$ mA	$R_S$	— —	— —	0.7 0.5	Ohms
Reverse Leakage Current ( $V_R = 20$ V)	$I_R$	—	—	20	nA
Forward Voltage ( $I_F = 100$ mA)	$V_F$	—	—	1.0	V

Preferred devices are Motorola recommended choices for future use and best overall value

2/94

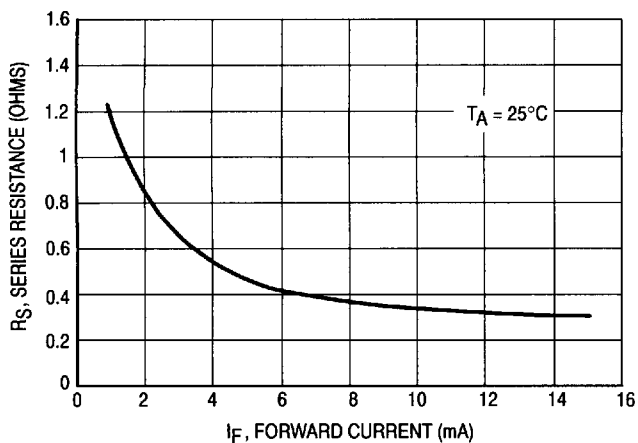
© Motorola, Inc. 1994

6367255 0088170 890

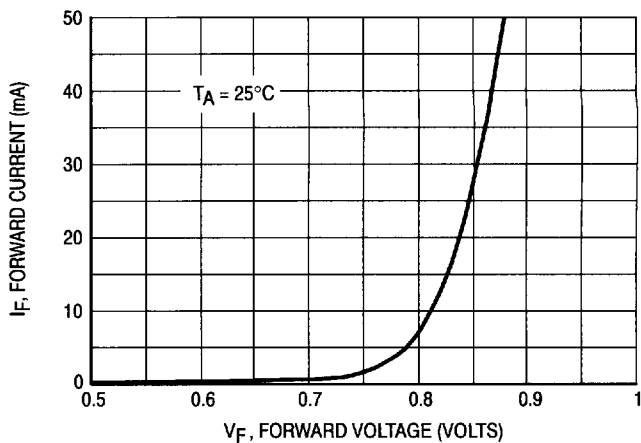


**MOTOROLA**

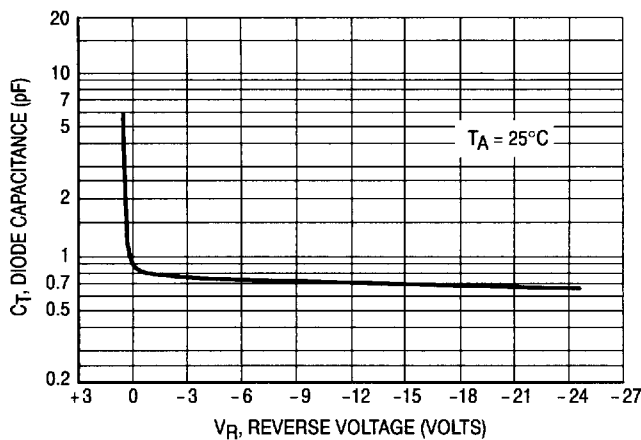
## TYPICAL ELECTRICAL CHARACTERISTICS



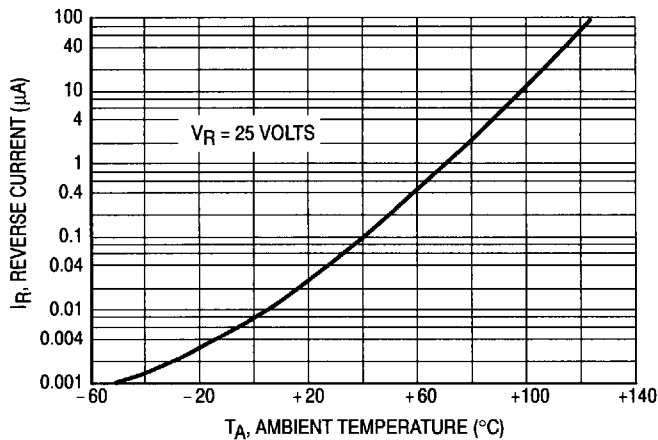
**Figure 1. Series Resistance**



**Figure 2. Forward Voltage**

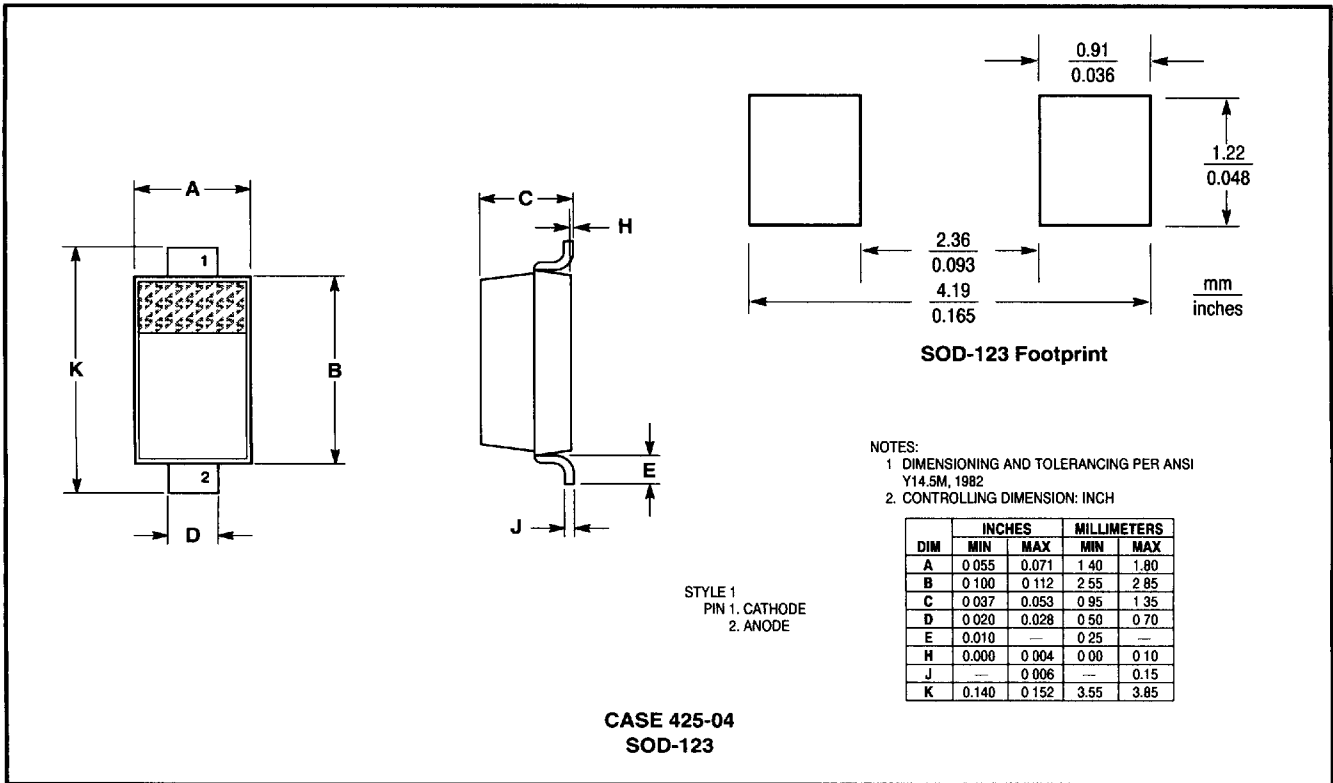


**Figure 3. Diode Capacitance**



**Figure 4. Leakage Current**

## OUTLINE DIMENSIONS



Motorola reserves the right to make changes without further notice to any products herein. Motorola makes no warranty, representation or guarantee regarding the suitability of its products for any particular purpose, nor does Motorola assume any liability arising out of the application or use of any product or circuit, and specifically disclaims any and all liability, including without limitation consequential or incidental damages. "Typical" parameters can and do vary in different applications. All operating parameters, including "Typicals" must be validated for each customer application by customer's technical experts. Motorola does not convey any license under its patent rights nor the rights of others. Motorola products are not designed, intended, or authorized for use as components in systems intended for surgical implant into the body, or other applications intended to support or sustain life, or for any other application in which the failure of the Motorola product could create a situation where personal injury or death may occur. Should Buyer purchase or use Motorola products for any such unintended or unauthorized application, Buyer shall indemnify and hold Motorola and its officers, employees, subsidiaries, affiliates, and distributors harmless against all claims, costs, damages, and expenses, and reasonable attorney fees arising out of, directly or indirectly, any claim of personal injury or death associated with such unintended or unauthorized use, even if such claim alleges that Motorola was negligent regarding the design or manufacture of the part. Motorola and are registered trademarks of Motorola, Inc. Motorola, Inc. is an Equal Opportunity/Affirmative Action Employer.