

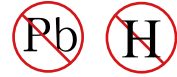


DATA SHEET

SEMICONDUCTOR

BAS16T

Silicon Switching Diode

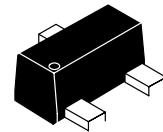


FEATURE

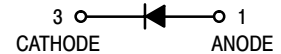
- We declare that the material of product compliance with RoHS requirements.
- S- Prefix for Automotive and Other Applications Requiring Unique Site and Control Change Requirements; AEC-Q101 Qualified and PPAP Capable.

MAXIMUM RATINGS (T_A = 25°C)

Rating	Symbol	Max	Unit
Continuous Reverse Voltage	V _R	75	V
Recurrent Peak Forward Current	I _R	200	mA
Peak Forward Surge Current Pulse Width = 10 μs	I _{FM(surge)}	500	mA
Total Power Dissipation, One Diode Loaded T _A = 25°C Derate above 25°C Mounted on a Ceramic Substrate (10 x 8 x 0.6 mm)	P _D	150 1.6	mW mW/°C
Operating and Storage Junction Temperature Range	T _J , T _{stg}	-55 to +150	°C



SOT-523/SC-89



THERMAL CHARACTERISTICS

Characteristic	Symbol	Max	Unit
Thermal Resistance, Junction to Ambient One Diode Loaded Mounted on a Ceramic Substrate (10 x 8 x 0.6 mm)	R _{θJA}	0.625	°C/mW

DEVICE MARKING

BAS16T = A6

ELECTRICAL CHARACTERISTICS (T_A = 25°C unless otherwise noted)

Characteristic	Symbol	Min	Max	Unit
Forward Voltage (I _F = 1.0 mA) (I _F = 10 mA) (I _F = 50 mA) (I _F = 150 mA)	V _F	—	715 866 1000 1250	mV
Reverse Current (V _R = 75 V) (V _R = 75 V, T _J = 150°C) (V _R = 25 V, T _J = 150°C)	I _R	—	1.0 50 30	μA
Capacitance (V _R = 0, f = 1.0 MHz)	C _D	—	2.0	pF
Reverse Recovery Time (I _F = I _R = 10 mA, R _L = 50 Ω) (Figure 1)	t _{rr}	—	6.0	ns
Stored Charge (I _F = 10 mA to V _R = 6.0 V, R _L = 500 Ω) (Figure 2)	Q _S	—	45	PC
Forward Recovery Voltage (I _F = 10 mA, t _r = 20 ns) (Figure 3)	V _{FR}	—	1.75	V

ORDERING INFORMATION

Device	Marking	Shipping
BAS16T	A6	3000/Tape&Reel
BAS16T	A6	10000/Tape&Reel

DEVICE CHARACTERISTICS

BAS16T

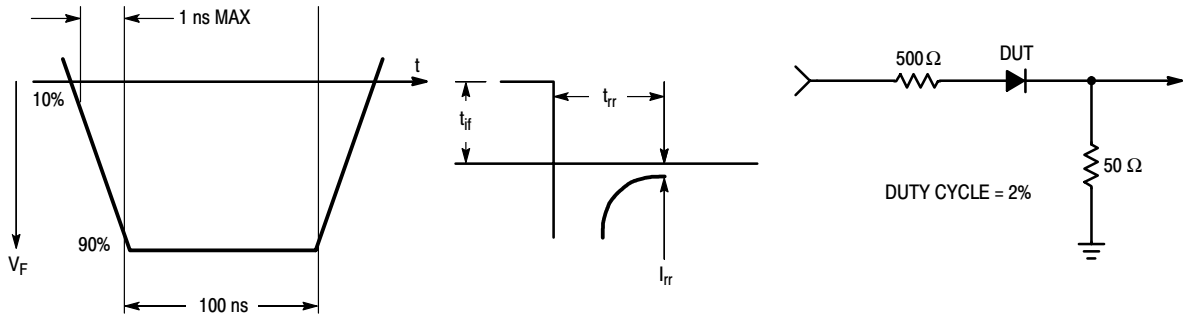


Figure 1. Reverse Recovery Time Equivalent Test Circuit

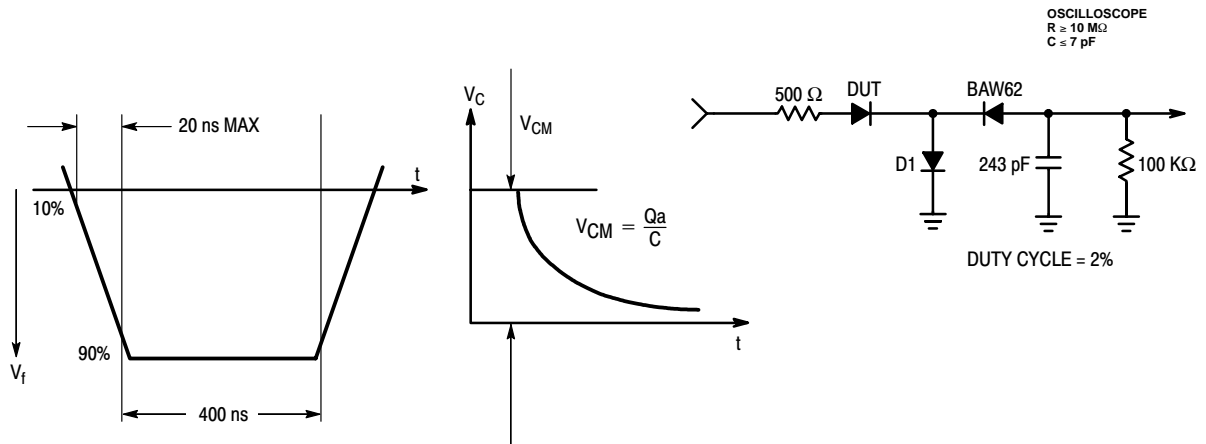


Figure 2. Recovery Charge Equivalent Test Circuit

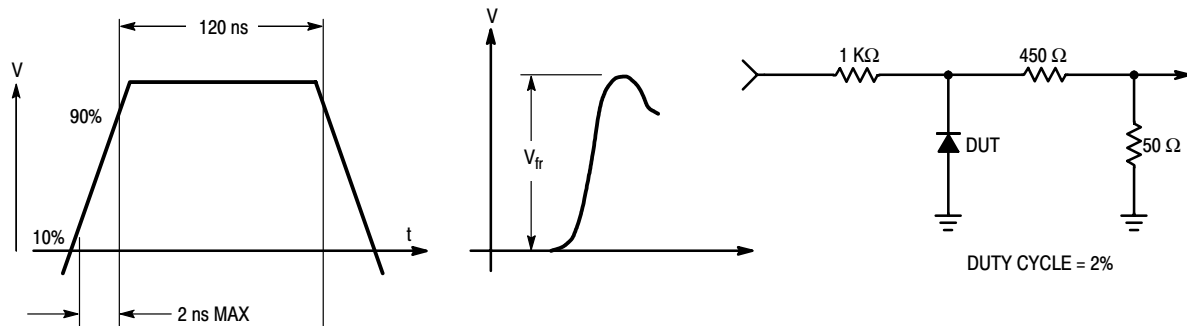


Figure 3. Forward Recovery Voltage Equivalent Test Circuit

DEVICE CHARACTERISTICS

BAS16T

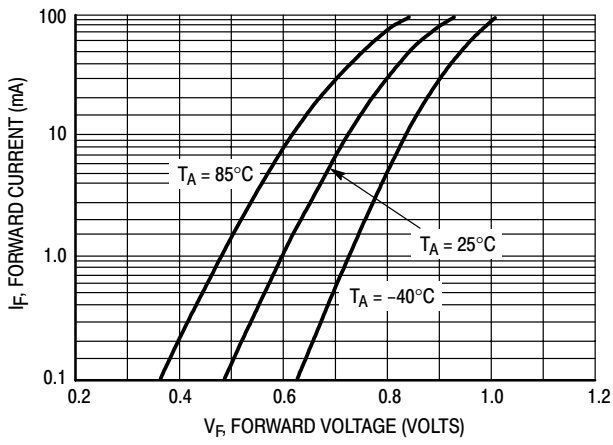


Figure 4. Forward Voltage

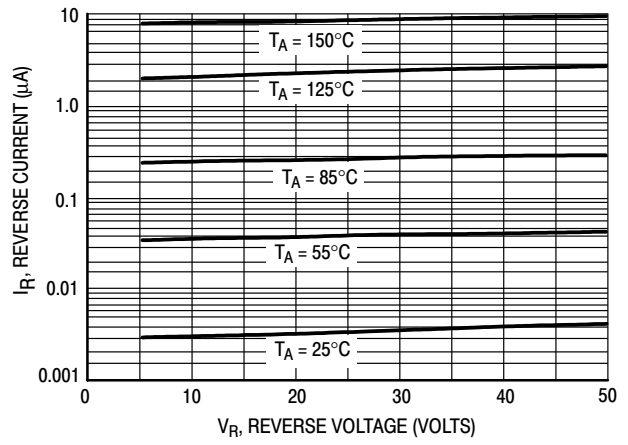


Figure 5. Leakage Current

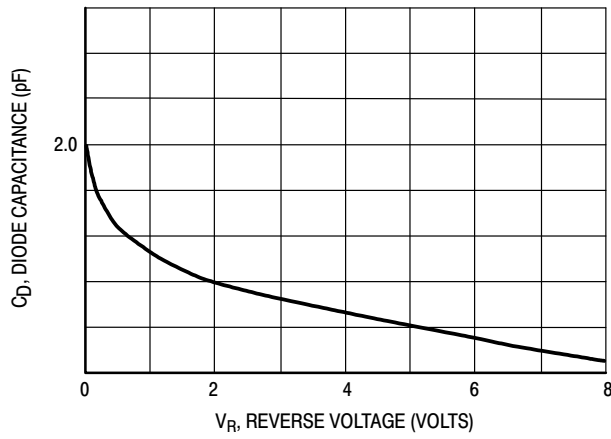
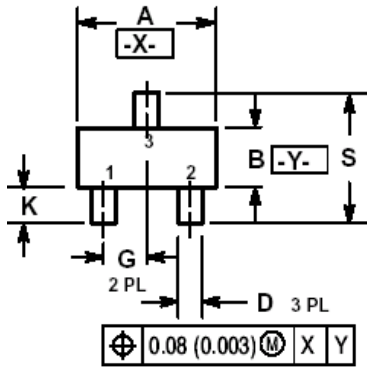


Figure 6. Capacitance

PACKAGE OUTLINE & DIMENSIONS

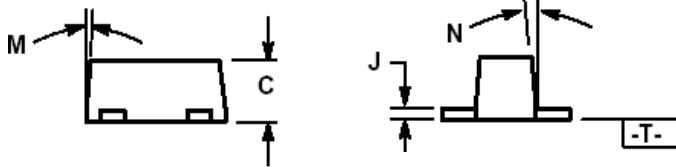
BAS16T

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NOTES:

1. DIMENSIONING AND TOLERANCING PER ANSI Y14.5M, 1982.
2. CONTROLLING DIMENSION: MILLIMETERS
3. MAXIMUM LEAD THICKNESS INCLUDES LEAD FINISH THICKNESS. MINIMUM LEAD THICKNESS IS THE MINIMUM THICKNESS OF BASE MATERIAL.
4. 463C-01 OBSOLETE, NEW STANDARD 463C-02.



DIM	MILLIMETERS			INCHES		
	MIN	NOM	MAX	MIN	NOM	MAX
A	1.50	1.60	1.70	0.059	0.063	0.067
B	0.75	0.85	0.95	0.030	0.034	0.040
C	0.60	0.70	0.80	0.024	0.028	0.031
D	0.23	0.28	0.33	0.009	0.011	0.013
G	0.50 BSC			0.020 BSC		
H	0.53 REF			0.021 REF		
J	0.10	0.15	0.20	0.004	0.006	0.008
K	0.30	0.40	0.50	0.012	0.016	0.020
L	1.10 REF			0.043 REF		
M	---	---	10 °	---	---	10 °
N	---	---	10 °	---	---	10 °
S	1.50	1.60	1.70	0.059	0.063	0.067

