THE DATASHEET OF

BAT54XV2T1

BAT54XV2T1

Preferred Device

Schottky Barrier Diodes

These Schottky barrier diodes are designed for high speed switching applications, circuit protection, and voltage clamping. Extremely low forward voltage reduces conduction loss. Miniature surface mount package is excellent for hand held and portable applications where space is limited.

- Extremely Fast Switching Speed
- Low Forward Voltage − 0.35 V (Typ) @ I_F = 10 mAdc

MAXIMUM RATINGS (T_J = 125°C unless otherwise noted)

Rating	Symbol	Value	Unit
Reverse Voltage	V_R	30	V

THERMAL CHARACTERISTICS

Characteristic	Symbol	Max	Unit
Total Device Dissipation FR−5 Board, (Note 1) T_A = 25°C Derate above 25°C	P_D	200 1.57	mW mW/°C
Thermal Resistance Junction to Ambient	$R_{\theta JA}$	635	°C/W
Junction and Storage Temperature	T_J, T_{stg}	150	°C

1. FR−4 Minimum Pad

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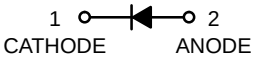
30 VOLT SILICON HOT−CARRIER DETECTOR AND SWITCHING DIODES



MARKING DIAGRAM

PLASTIC SOD−523 CASE 502

JV = Specific Device Code
d = Date Code

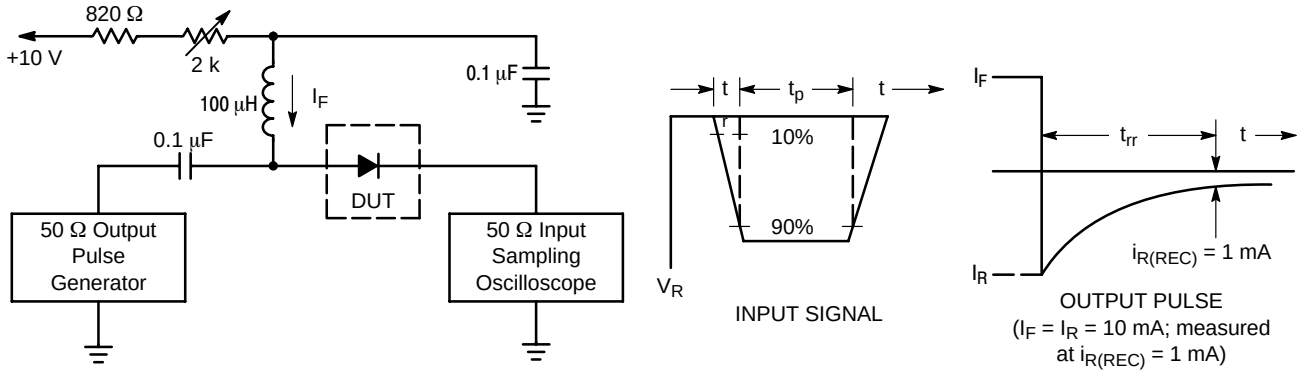
ORDERING INFORMATION

Device	Package	Shipping
BAT54XV2T1	SOD−523	3000/Tape & Reel

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

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

Characteristic	Symbol	Min	Typ	Max	Unit
Reverse Breakdown Voltage (I_R = 10 μA)	$V_{(BR)R}$	30	−	−	Volts
Total Capacitance (V_R = 1.0 V, f = 1.0 MHz)	C_T	−	7.6	10	pF
Reverse Leakage (V_R = 25 V)	I_R	−	0.5	2.0	μAdc
Forward Voltage (I_F = 0.1 mAdc)	V_F	−	0.22	0.24	Vdc
Forward Voltage (I_F = 30 mAdc)	V_F	−	0.41	0.5	Vdc
Forward Voltage (I_F = 100 mAdc)	V_F	−	0.52	0.8	Vdc
Reverse Recovery Time (I_F = I_R = 10 mAdc, $I_{R(REC)}$ = 1.0 mAdc) Figure 1	t_{rr}	−	−	5.0	ns
Forward Voltage (I_F = 1.0 mAdc)	V_F	−	0.29	0.32	Vdc
Forward Voltage (I_F = 10 mAdc)	V_F	−	0.35	0.40	Vdc
Forward Current (DC)	I_F	−	−	200	mAdc
Repetitive Peak Forward Current	I_{FRM}	−	−	300	mAdc
Non−Repetitive Peak Forward Current (t < 1.0 s)	I_{FSM}	−	−	600	mAdc



Notes: 1. A 2.0 kΩ variable resistor adjusted for a Forward Current (I_F) of 10 mA.
2. Input pulse is adjusted so $I_{R(peak)}$ is equal to 10 mA.
3. $t_p \gg t_{rr}$

Figure 1. Recovery Time Equivalent Test Circuit

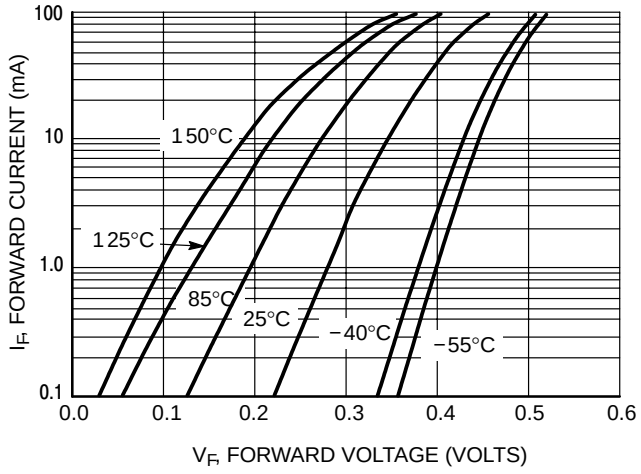


Figure 2. Forward Voltage

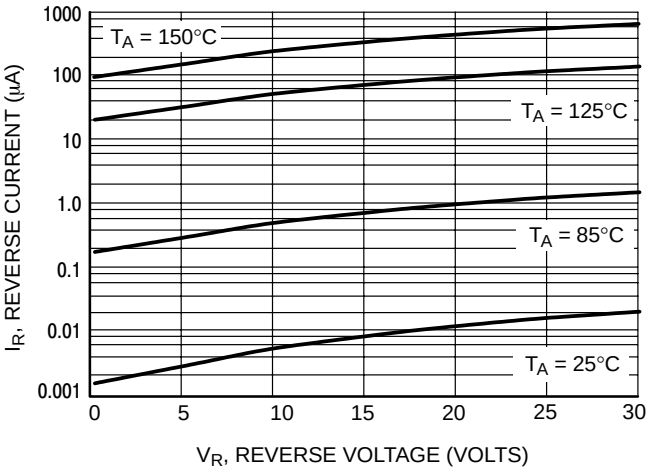


Figure 3. Leakage Current

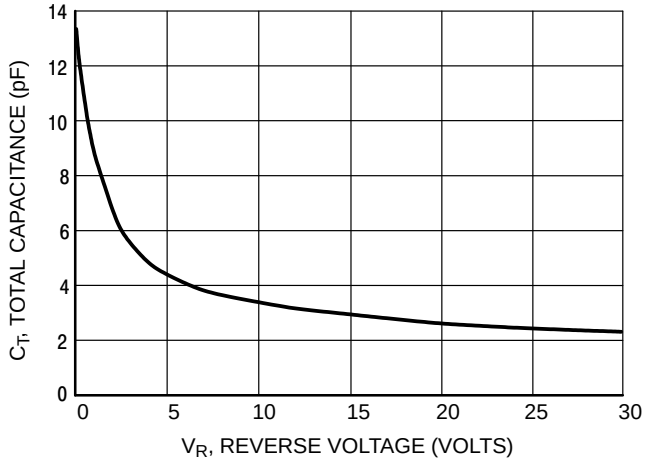
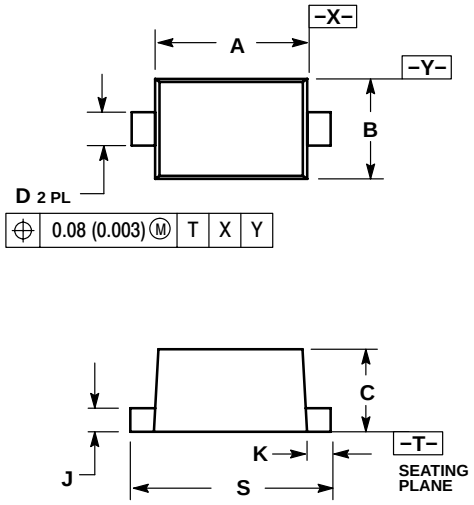


Figure 4. Total Capacitance

PACKAGE DIMENSIONS

SOD−523
PLASTIC PACKAGE
CASE 502−01
ISSUE O



NOTES:
1. DIMENSIONING AND TOLERANCING PER ANSI Y14.5M, 1982.
2. CONTROLLING DIMENSION: MILLIMETER.
3. MAXIMUM LEAD THICKNESS INCLUDES LEAD FINISH THICKNESS. MINIMUM LEAD THICKNESS IS THE MINIMUM THICKNESS OF BASE MATERIAL.

	MILLIMETERS			INCHES		
DIM	MIN	NOM	MAX	MIN	NOM	MAX
A	1.10	1.20	1.30	0.043	0.047	0.051
B	0.70	0.80	0.90	0.028	0.032	0.035
C	0.50	0.60	0.70	0.020	0.024	0.028
D	0.25	0.30	0.35	0.010	0.012	0.014
J	0.07	0.14	0.20	0.0028	0.0055	0.0079
K	0.15	0.20	0.25	0.006	0.008	0.010
S	1.50	1.60	1.70	0.059	0.063	0.067

PUBLICATION ORDERING INFORMATION

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