WEITRON

BAT54XV2

Surface Mount Schottky Barrier Diodes

Lead(Pb)-Free

SMALL SIGNAL SCHOTTKY DIODES 200m AMPERES 30 VOLTS

Description:

These Schottky barrierdiodesare designed for high−speedswitching applications, circuit protection, and voltage clamping. Extremely low forward voltage reduces conduction loss. Miniaturesurface mount package is excellent for hand−held and portableapplications where space is limited.

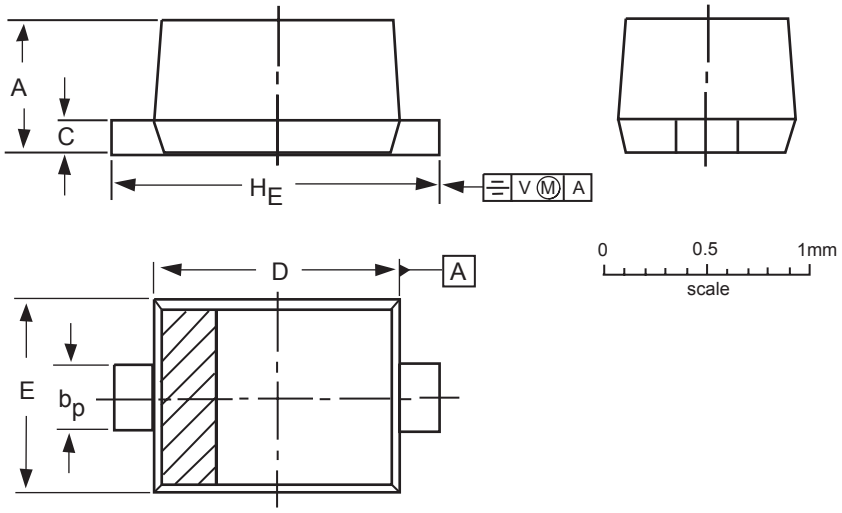
SOD-523

Feature:

* Extremely Fast Switching Speed
* Low Forward Voltage 0.35V (Typ) @ I_F = 10 mA

SOD-523 Outline Dimensions

Unit:mm



DIMENSIONS (mm are the original dimensions)

UNIT		A	b_p	c	D	E	H_E	V
mm	max	0.7	0.35	0.2	1.3	0.9	1.7	0.15
	min	0.5	0.25	0.1	1.1	0.7	1.5	

Note1. The marking bar indicates the cathode.

OUTLINE VERSION	REFERENCES			EUROPEAN PROJECTION	ISSUE DATE
	IEC	JEDEC	EIAJ		
SOD-523			SC-79		98-11-25

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

Rating	Symbol	Value	Unit
Reverse Voltage	V_R	30	V

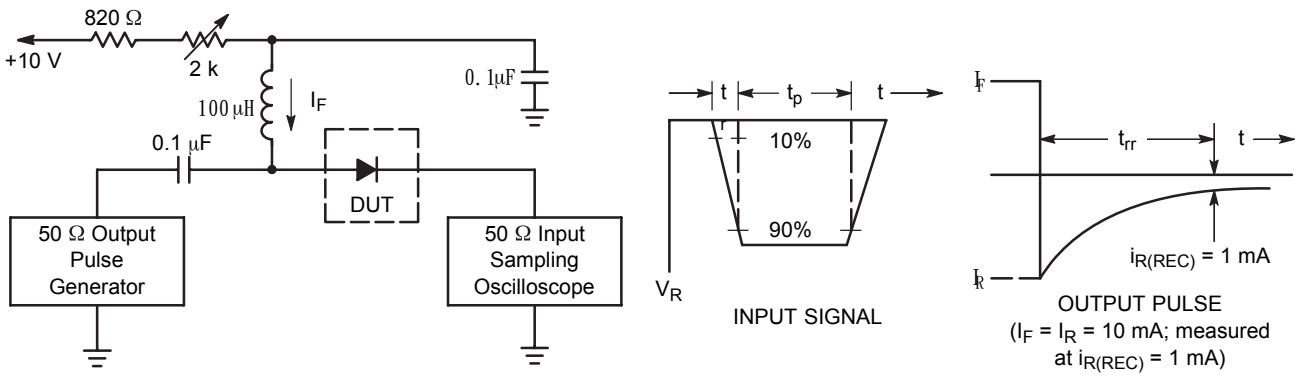
THERMAL CHARACTERISTICS

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}	−55 to 150	°C

1. FR−4 Minimum Pad.

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	−	−	V
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

Electrical characteristic curves

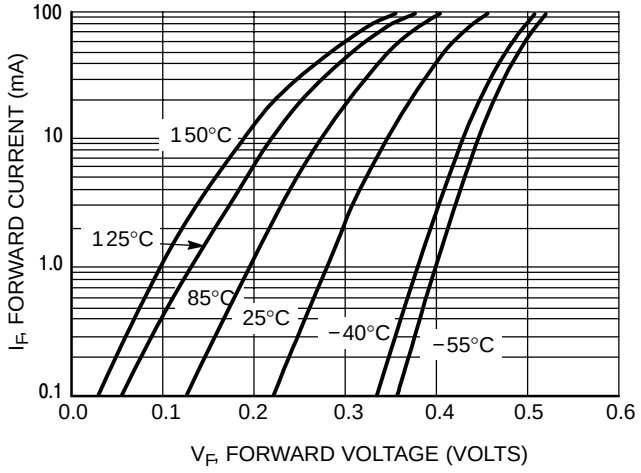


Figure 2. Forward Voltage

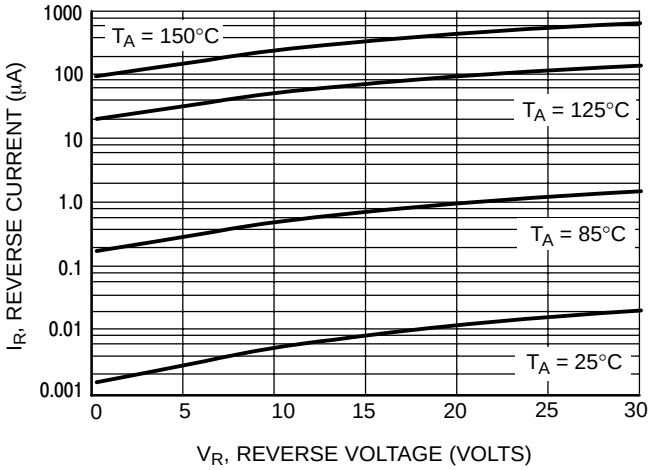


Figure 3. Leakage Current

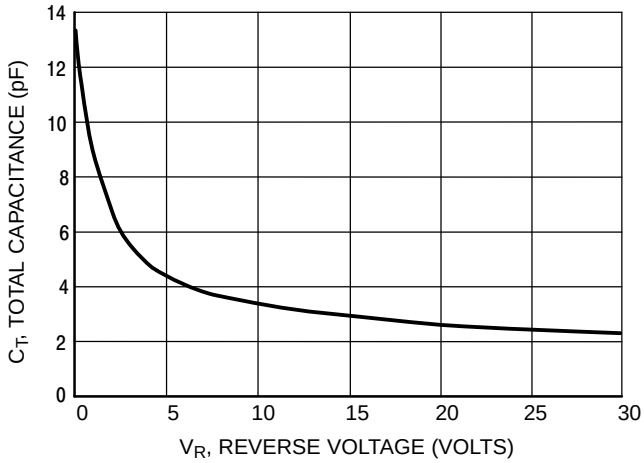


Figure 4. Total Capacitance