Zowie Technology Corporation

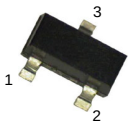
Schottky Barrier Diode

30 VOLTS
SCHOTTKY BARRIER
DETECTOR AND SWITCHING
DIODE

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 Volts (Typ) @ I_F=10mAdc

BAT54RS



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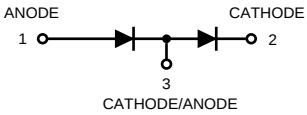


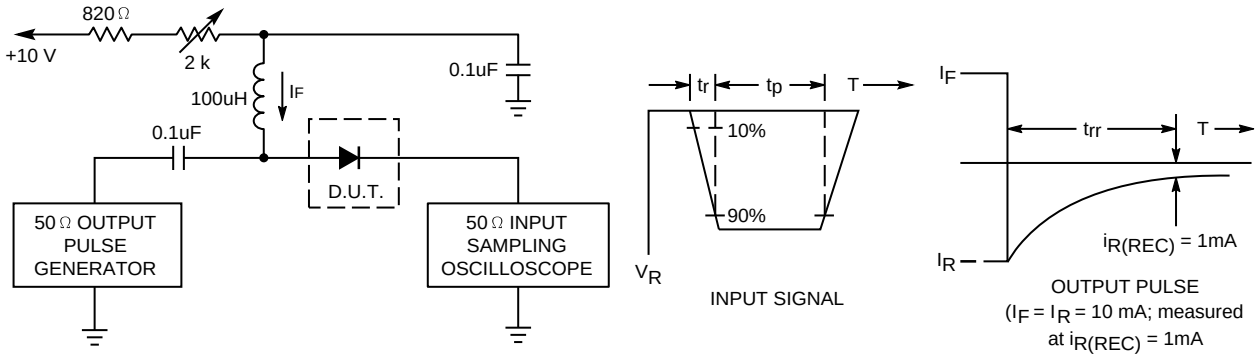
MAXIMUM RATINGS (T_J=125°C unless otherwise noted)

Rating	Symbol	Value	Unit
Reverse Voltage	V_R	30	Volts
Forward Power Dissipation @ TA=25°C Derate above 25°C	P_F	225 1.8	mW mW / °C
Forward Current (DC)	I_F	200 Max	mA
Operating Junction Temperature Range	T_J	-55 to +125	°C
Storage Temperature Range	T_{STG}	-55 to +150	°C

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

Characteristic		Symbol	Min.	Typ.	Max.	Unit
OFF CHARACTERISTICS						
Reverse Breakdown Voltage (I_R=10 uAdc)		$V_{(BR)}$	30	-	-	Volts
Forward Voltage	(I_F=0.1 mAdc) (I_F=1.0 mAdc) (I_F=10 mAdc) (I_F=30 mAdc) (I_F=100 mAdc)	V_F	- - - - -	0.22 0.29 0.35 0.41 0.52	0.24 0.32 0.40 0.50 1.00	Vdc
Reverse Leakage (V_R=25 Vdc)		I_R	-	0.5	2.0	uAdc
Diode Capacitance (V_R=1.0V, f=1.0MHz)		C_J	-	7.6	10	pF
Reverse Recovery Time (I_F=I_R=10 mAdc, $I_{R(REC)}$=1.0mAdc)		trr	-	-	5.0	nS

FIGURE 1. RECOVERY TIME EQUIVALENT TEST CIRCUIT



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

FIGURE 2. FORWARD VOLTAGE

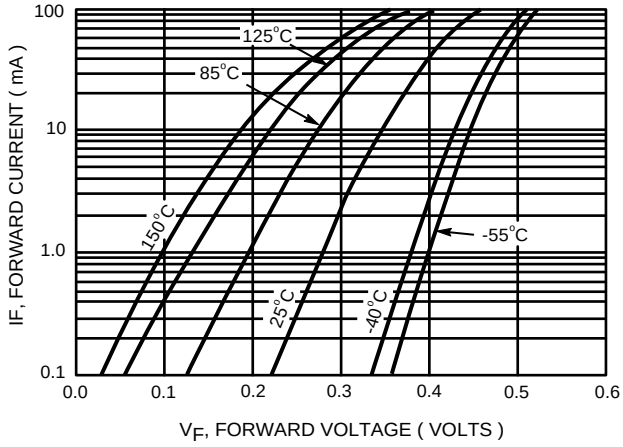


FIGURE 3. LEAKAGE CURRENT

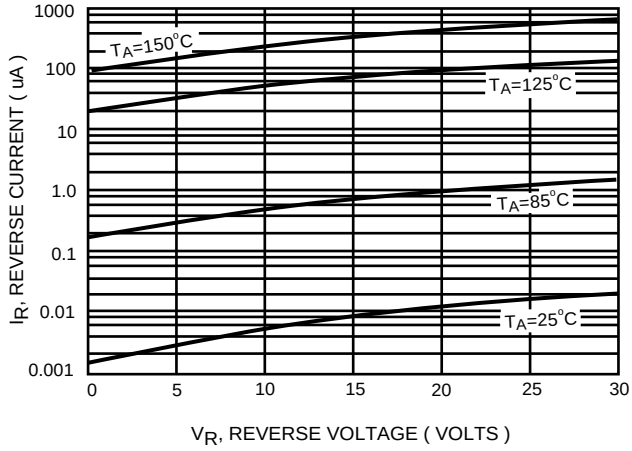


FIGURE 4. TOTAL CAPACITANCE