

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 Volts (Typ) @ $I_F = 10 \text{ mAdc}$
- Device Marking: JV

We declare that the material of product compliance with RoHS requirements.



ORDERING INFORMATION

Device	Marking	Shipping
FDR54U	JV	3000/Tape & Reel

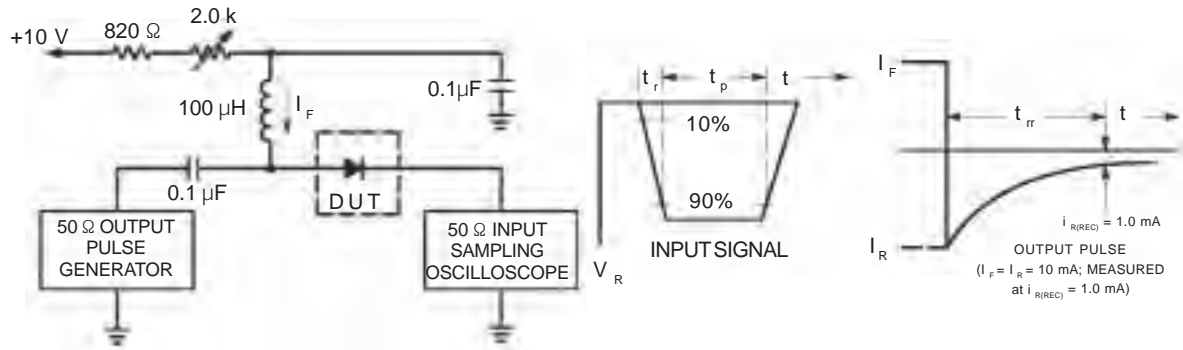
MAXIMUM RATINGS ($T_J = 125^\circ\text{C}$ unless otherwise noted)

Rating	Symbol	Value	Unit
Reverse Voltage	V_R	30	Volts
Forward Power Dissipation * @ $T_A = 25^\circ\text{C}$ Derate above 25°C	P_D	200 1.57	mW mW/ $^\circ\text{C}$
Forward Current (DC)	I_F	200 Max	mA
Junction Temperature	T_J	125 Max	$^\circ\text{C}$
Storage Temperature Range	T_{stg}	-55 to +150	$^\circ\text{C}$

* FR-4 Minimum Pad

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

Characteristic	Symbol	Min	Typ	Max	Unit
Reverse Breakdown Voltage ($I_R = 10 \mu\text{A}$)	$V_{(BR)R}$	30	—	—	Volts
Total Capacitance ($V_R = 1.0 \text{ V}$, $f = 1.0 \text{ MHz}$)	C_T	—	7.6	10	pF
Reverse Leakage ($V_R = 25 \text{ V}$)	I_R	—	0.5	2.0	μAdc
Forward Voltage ($I_F = 0.1 \text{ mAdc}$)	V_F	—	0.22	0.24	Vdc
Forward Voltage ($I_F = 0.15 \text{ mAdc}$)	V_F	—	0.24	0.26	Vdc
Forward Voltage ($I_F = 0.15 \text{ mAdc}$, $T_J = -25^\circ\text{C}$)	V_F	—	0.33	0.35	Vdc
Forward Voltage ($I_F = 0.15 \text{ mAdc}$, $T_J = 85^\circ\text{C}$)	V_F	—	0.16	0.18	Vdc
Forward Voltage ($I_F = 30 \text{ mAdc}$)	V_F	—	0.41	0.5	Vdc
Forward Voltage ($I_F = 100 \text{ mAdc}$)	V_F	—	0.52	1.0	Vdc
Reverse Recovery Time ($I_F = I_R = 10 \text{ mAdc}$, $I_{R(REC)} = 1.0 \text{ mAdc}$, Figure 1)	t_{rr}	—	—	5.0	ns
Forward Voltage ($I_F = 1.0 \text{ mAdc}$)	V_F	—	0.29	0.32	Vdc
Forward Voltage ($I_F = 10 \text{ mAdc}$)	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 ($t < 1.0 \text{ s}$)	I_{FSM}	—	—	600	mAdc



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

Figure 1. Recovery Time Equivalent Test Circuit

TYPICAL CHARACTERISTICS

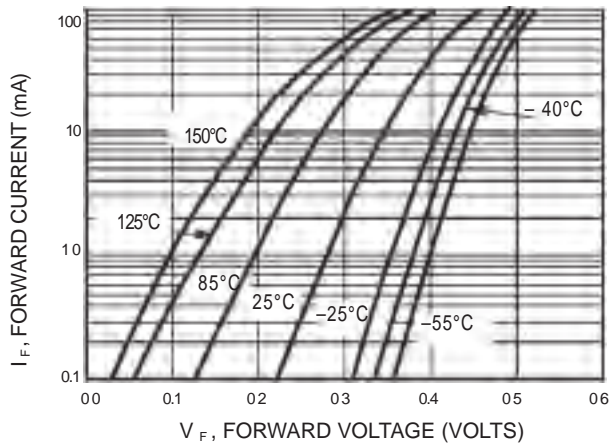


Figure 2. Forward Voltage

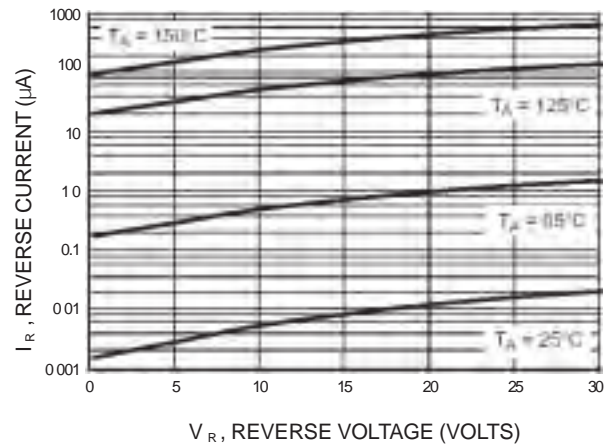


Figure 3. Leakage Current

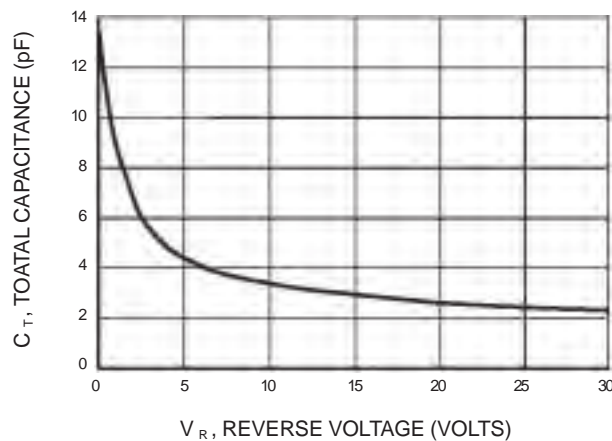
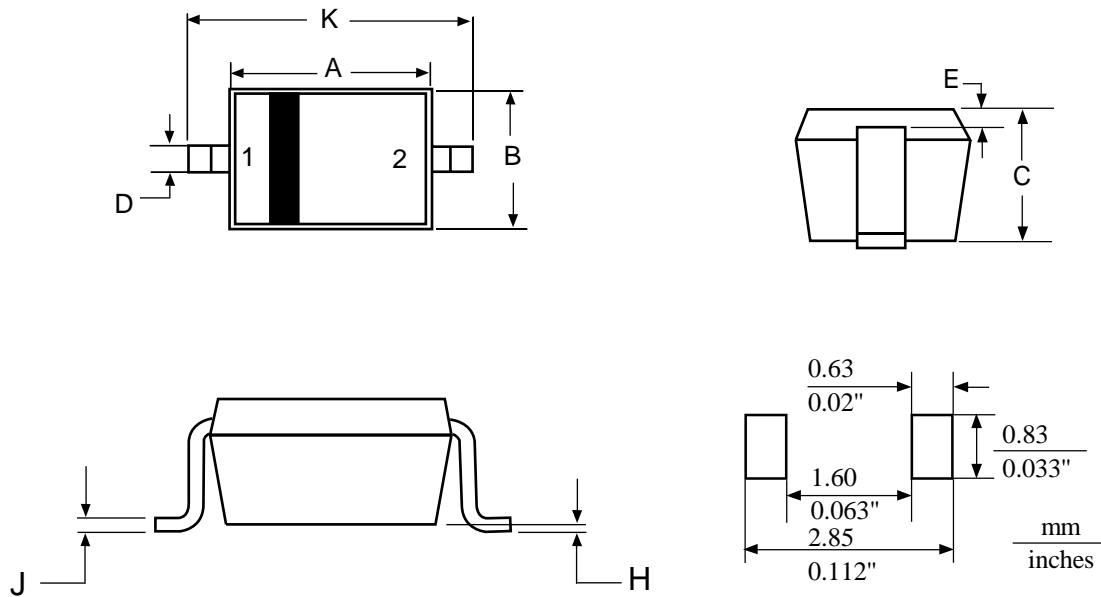


Figure 4. Total Capacitance

SOD-323



NOTES:

1. DIMENSIONING AND TOLERANCING PER ANSI Y14.5M, 1982.
2. CONTROLLING DIMENSION: MILLIMETERS

DIM	MILLIMETERS		INCHES	
	MIN	MAX	MIN	MAX
A	1.60	1.80	0.063	0.071
B	1.15	1.35	0.045	0.053
C	0.80	1.00	0.031	0.039
D	0.25	0.40	0.010	0.016
E	0.15 REF		0.006 REF	
H	0.00	0.10	0.000	0.004
J	0.089	0.177	0.0035	0.0070
K	2.30	2.70	0.091	0.106

PIN:1:CATHODE
2:ANODE