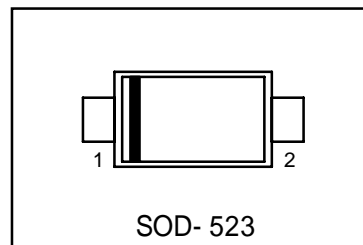


# SCHOTTKY BARRIER DIODE

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

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



## ORDERING INFORMATION

Device	Marking	Shipping
<b>FDR54E</b>	JV	3000/Tape & Reel

## MAXIMUM RATINGS (T<sub>J</sub>=125°C unless otherwise noted )

Rating	Symbol	Value	Unit
Reverse Voltage	V <sub>R</sub>	30	V

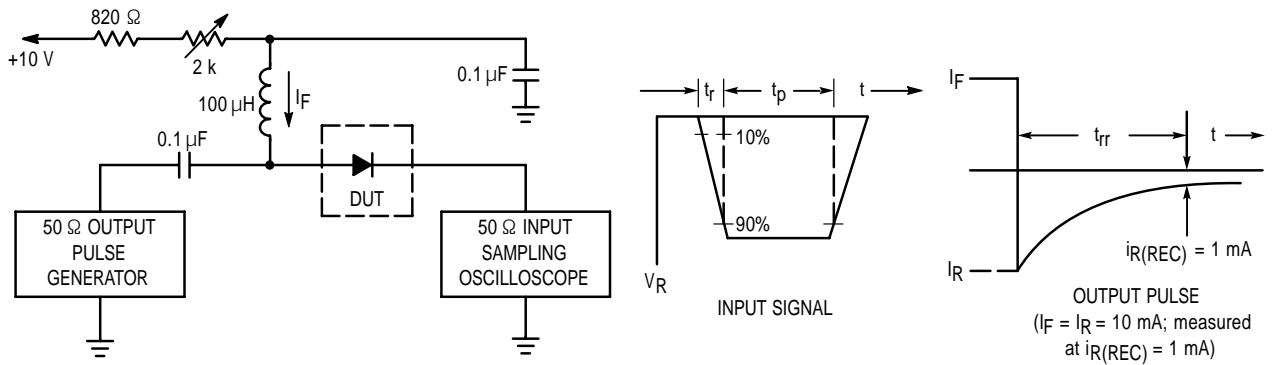
## THERMAL CHARACTERISTICS

Characteristic	Symbol	Max	Unit
Total Device Dissipation FR-5 Board,* T <sub>A</sub> = 25°C	P <sub>D</sub>	200	mW
Derate above 25°C		1.57	mW/°C
Thermal Resistance Junction to Ambient	R <sub>θJA</sub>	635	°C/W
Junction Temperature	T <sub>J</sub>	125	°C
Storage Temperature	T <sub>stg</sub>	-40 to +125	°C

\*FR-4 Minimum Pad

## ELECTRICAL CHARACTERISTICS (T<sub>A</sub>= 25°C unless otherwise noted)

Characteristic	Symbol	Min	Typ	Max	Unit
Reverse Breakdown Voltage (I <sub>R</sub> = 10 μA)	V <sub>(BR)R</sub>	30	—	—	Volts
Total Capacitance (V <sub>R</sub> = 1.0 V, f = 1.0 MHz)	C <sub>T</sub>	—	—	10	pF
Reverse Leakage (V <sub>R</sub> = 25 V)	I <sub>R</sub>	—	0.5	2.0	μAdc
Forward Voltage (I <sub>F</sub> = 0.1 mAdc)	V <sub>F</sub>	—	0.22	0.24	Vdc
Forward Voltage (I <sub>F</sub> = 1.0 mAdc)	V <sub>F</sub>	—	0.29	0.32	Vdc
Forward Voltage (I <sub>F</sub> = 10 mAdc)	V <sub>F</sub>	—	0.35	0.40	Vdc
Forward Voltage (I <sub>F</sub> = 30 mAdc)	V <sub>F</sub>	—	0.41	0.5	Vdc
Forward Voltage (I <sub>F</sub> = 100 mAdc)	V <sub>F</sub>	—	0.52	1.0	Vdc
Reverse Recovery Time (I <sub>F</sub> = I <sub>R</sub> = 10 mAdc, I <sub>R(REC)</sub> = 1.0 mAdc, Figure 1)	t <sub>rr</sub>	—	—	5.0	ns
Forward Current (DC)	I <sub>F</sub>	—	—	200	mAdc
Repetitive Peak Forward Current	I <sub>FRM</sub>	—	—	300	mAdc
Non-Repetitive Peak Forward Current (t < 1.0 s)	I <sub>FSM</sub>	—	—	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  $I_R(\text{peak})$  is equal to 10 mA.  
 3.  $t_p \gg t_{rr}$

Fig.1 RECOVERY TIME EQUIVALENT TEST CIRCUIT

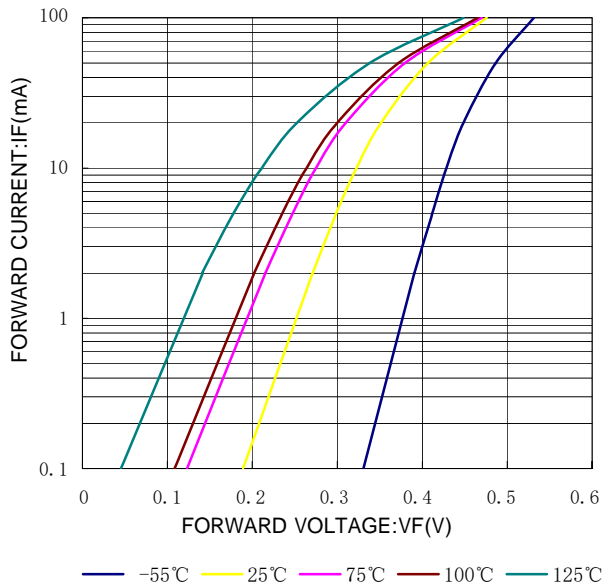


Fig.2 FORWARD CHARACTERISTICS

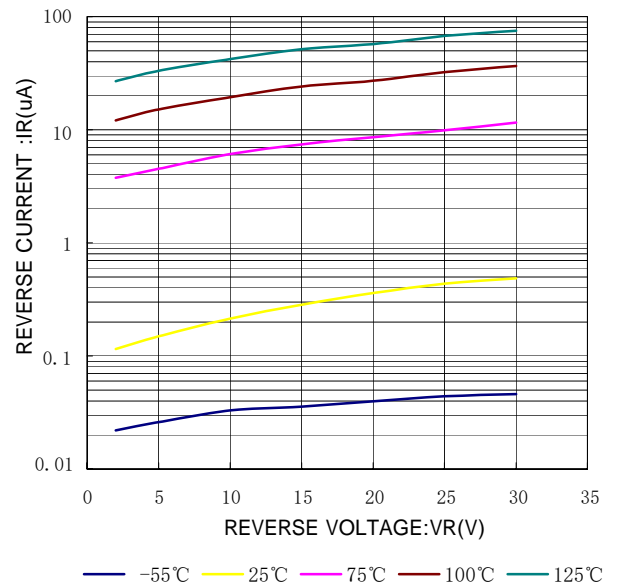


Fig.3 REVERSE CHARACTERISTICS

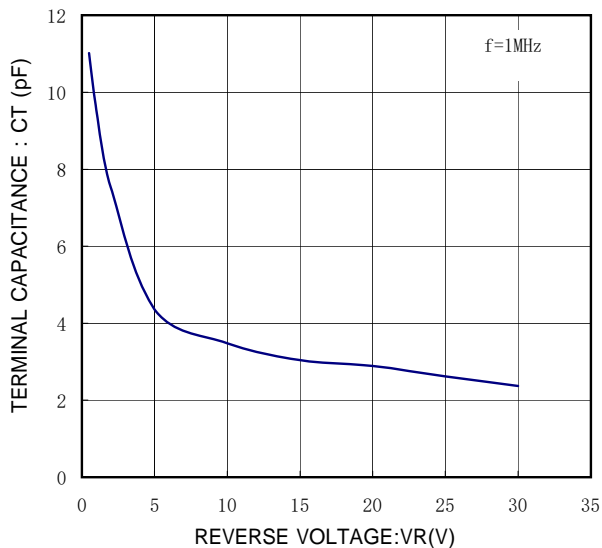
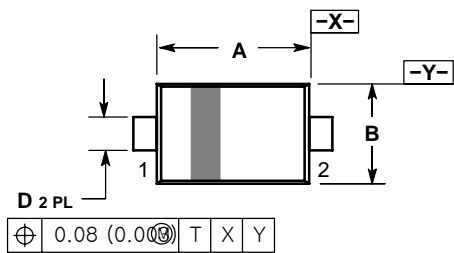


Fig.4 VR - CT CHARACTERISTICS

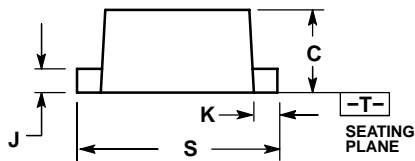
## SC-79 / SOD-523



**NOTES:**

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

DIM	MILLIMETERS			INCHES		
	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



## SOLDERING FOOTPRINT\*

