

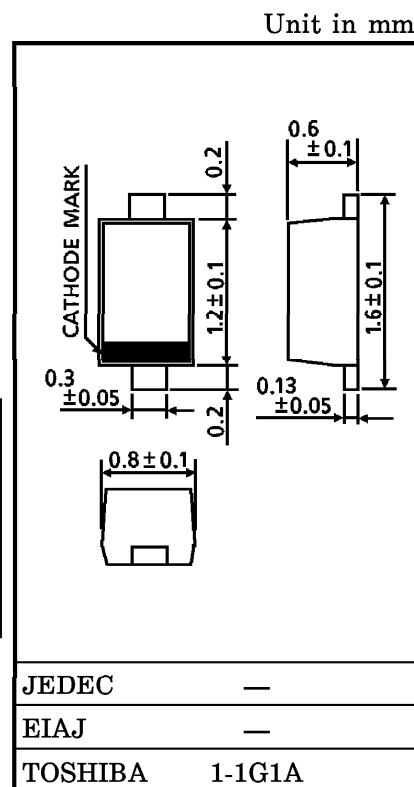
## 1SV290

## CATV TUNING

- High Capacitance Ratio :  $C_{2V}/C_{25V}=16$  (TYP.)
- Low Series Resistance :  $r_s=0.92\Omega$  (TYP.)
- Excellent C-V Characteristics, and Small Tracking Error.
- Useful for Small Size Tuner.

MAXIMUM RATINGS ( $T_a = 25^\circ\text{C}$ )

CHARACTERISTIC	SYMBOL	RATING	UNIT
Reverse Voltage	$V_R$	30	V
Peak Reverse Voltage	$V_{RM}$	35 ( $R_L=10k\Omega$ )	V
Junction Temperature	$T_j$	125	$^\circ\text{C}$
Storage Temperature Range	$T_{stg}$	$-55\sim 125$	$^\circ\text{C}$



Weight : 0.0014g

ELECTRICAL CHARACTERISTICS ( $T_a = 25^\circ\text{C}$ )

CHARACTERISTIC	SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Reverse Voltage	$V_R$	$I_R=1\mu\text{A}$	30	—	—	V
Reverse Current	$I_R$	$V_R=28\text{V}$	—	—	10	nA
Capacitance	$C_{2V}$	$V_R=2\text{V}, f=1\text{MHz}$	41	—	49.5	pF
Capacitance	$C_{25V}$	$V_R=25\text{V}, f=1\text{MHz}$	2.5	—	3.2	pF
Capacitance Ratio	$C_{2V}/C_{25V}$	—	15	16	—	—
Series Resistance	$r_s$	$V_R=5\text{V}, f=470\text{MHz}$	—	0.92	1.05	$\Omega$

Note 1 : Available in matched group for capacitance to 2.5%.

$$\frac{C(\text{MAX.}) - C(\text{MIN.})}{C(\text{MIN.})} \leq 0.025$$

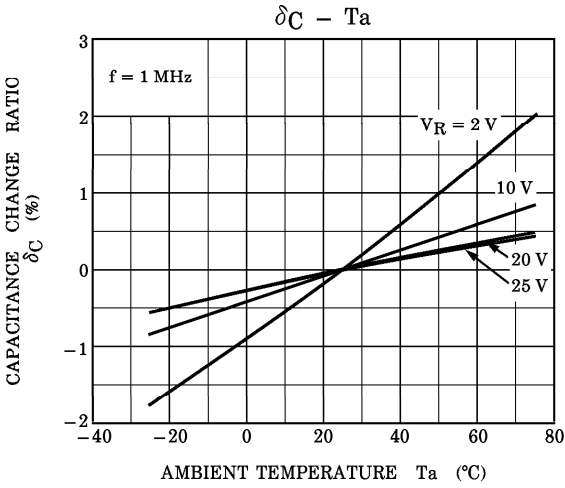
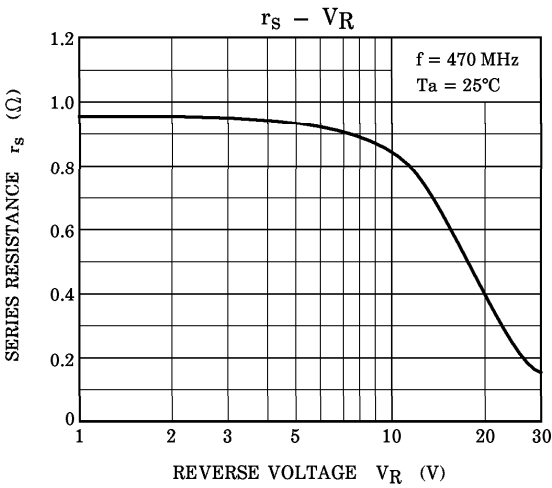
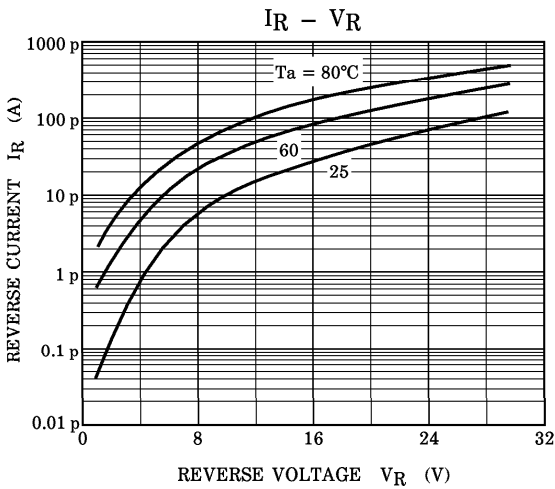
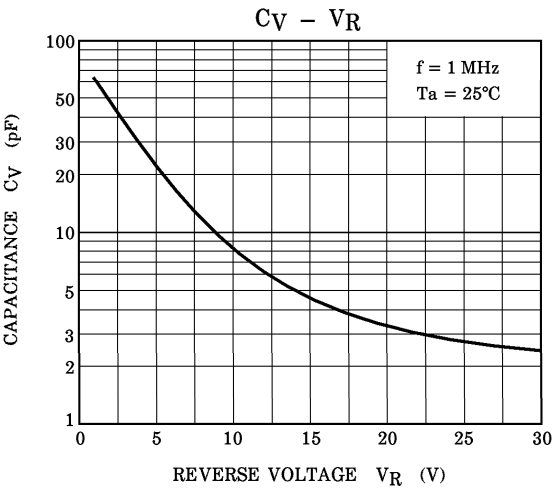
 $(V_R=2\sim 25\text{V})$ 

## MARKING



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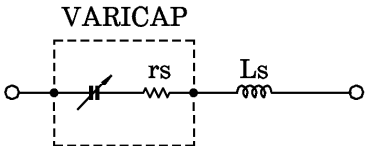


SPICE PARAMETER

SPICE MODEL : BERKLEY SPICE.2G.6 DIODE MODEL  
DATA FORMAT : MODEL FORMAT  
SPICE SYMBOL :  $I_S$  (A),  $R_S$  ( $\Omega$ ),  $N$  (–),  $CJ0$  (F),  $V_J$  (V),  $M$  (–),  $B_V$  (V),  $I_{BV}$  (A)  
FREQUENCY RANGE :  $f = 0.1 \sim 3$  GHz  
REVERSE VOLTAGE RANGE :  $V_R = 2 \sim 25$  V

PARAMETER

$I_S = 9.480E - 15$   
 $N = 1.058$   
 $B_V = 30$   
 $I_{BV} = 1.00E - 04$   
 $R_S = 0.92$   
 $CJ0 = 1.000E - 10$   
 $V_J = 3.412$   
 $M = 1.758$   
-----  
 $L_s = 5.00E - 10$



- (Note 1) : These parameters from  $I_S$  to  $M$  mean die characteristic.  
Actually device has lead inductance so  $L_s$  is necessary for simulation.  
And please use default value except above parameters.
- (Note 2) :  $R_S$  shows the value at the condition of  $V_R = 5$  V and  $f = 470$  MHz.  
If another value is needed, please refer to  $R_S - V_R$  curve in this data sheets.