

9097250 TOSHIBA (DISCRETE/OPTO)

67C 09319 D T-03-09

**1SS176~1SS178**Silicon Epitaxial Planar Type  
Diode

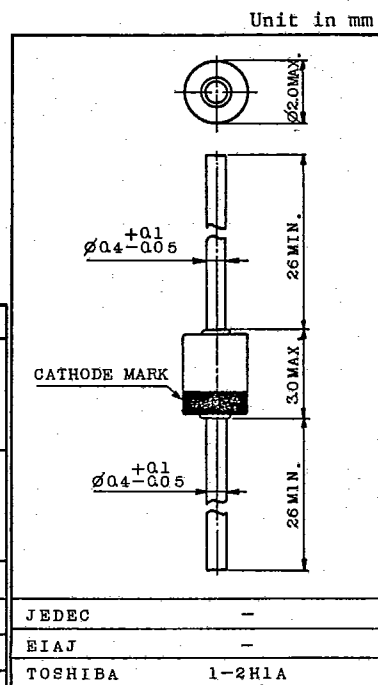
ULTRA HIGH SPEED SWITCHING APPLICATION.

## FEATURES:

- Small Package.
- High Power Dissipation : P=300mW (Max.)
- Fast Reverse Recovery Time :  $t_{rr}=1.4\text{ns}$  (Typ.)
- Small Total Capacitance :  $C_T=0.9\text{pF}$  (Typ.)

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

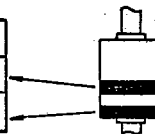
CHARACTERISTIC	SYMBOL	RATING	UNIT
Maximum (Peak) Reverse Voltage	1SS176	35	V
	1SS177	55	
	1SS178	90	
Reverse Voltage	1SS176	30	V
	1SS177	50	
	1SS178	80	
Maximum (Peak) Forward Current	$I_{FM}$	300	mA
Average Forward Current	$I_O$	100	mA
Surge Current (1 sec)	$I_{FSM}$	1	A
Power Dissipation	P	300	mW
Junction Temperature	$T_j$	175	$^\circ\text{C}$
Storage Temperature Range	$T_{stg}$	-65~175	$^\circ\text{C}$

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

CHARACTERISTIC	SYMBOL	TEST CONDITION	1SS176			1SS177			1SS178			UNIT
			MIN.	TYP.	MAX.	MIN.	TYP.	MAX.	MIN.	TYP.	MAX.	
Forward Voltage	$V_F$	$I_F=100\text{mA}$	-	0.95	1.20	-	0.95	1.20	-	0.95	1.20	V
Reverse Current	$I_R$	$V_R=30\text{V}$	-	-	0.5	-	-	-	-	-	-	$\mu\text{A}$
		$V_R=50\text{V}$	-	-	-	-	-	0.5	-	-	-	
		$V_R=80\text{V}$	-	-	-	-	-	-	-	-	0.5	
Total Capacitance	$C_T$	$V_R=0, f=1\text{MHz}$	-	0.9	3.0	-	0.9	3.0	-	0.9	3.0	pF
Reverse Recovery Time	$t_{rr}$	$I_F=10\text{mA}$ , Fig.1	-	1.4	4.0	-	1.4	4.0	-	1.4	4.0	ns

## MARKING (Color)

1SS176	1SS177	1SS178
-	Blue	Black
Green	Green	Green



TOSHIBA CORPORATION

9097250 TOSHIBA (DISCRETE/OPTO)

67C 09320 DT-0309

1SS176~1SS178

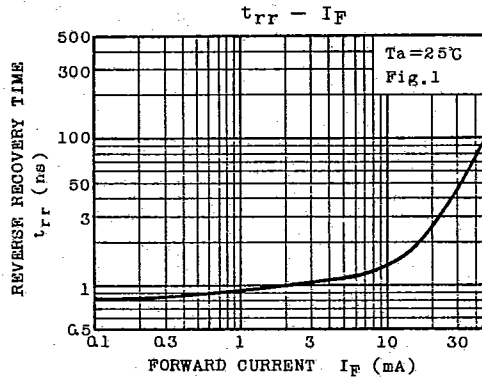
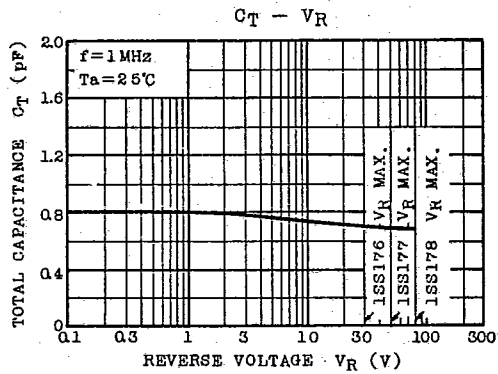
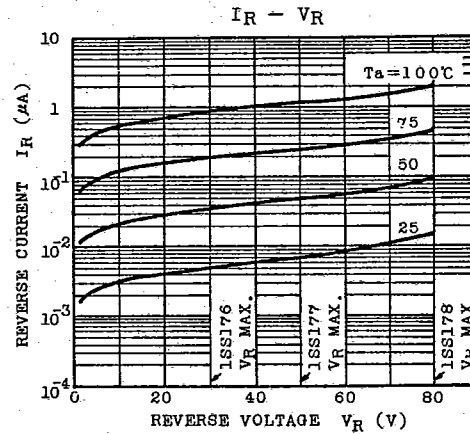
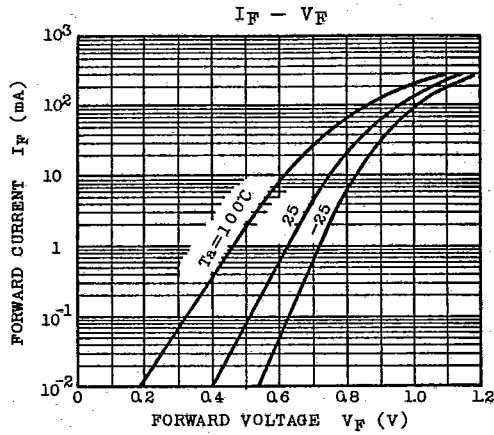
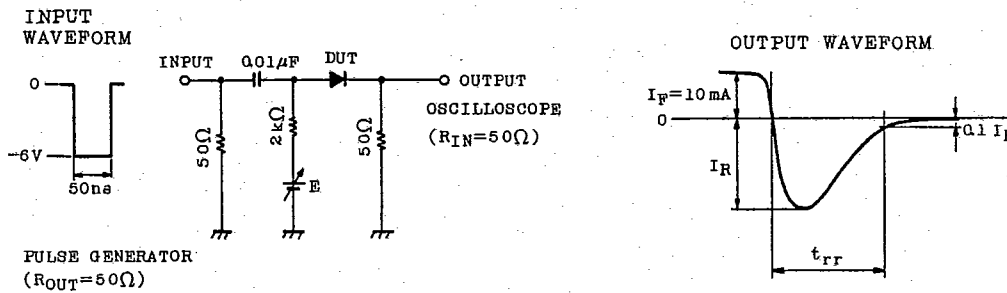


Fig. 1 REVERSE RECOVERY TIME ( $t_{rr}$ ) TEST CIRCUIT



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