

# TOSHIBA SEMICONDUCTOR TECHNICAL DATA

TOSHIBA TRANSISTOR  
2SD1554

SILICON NPN TRIPLE DIFFUSED MESA TYPE

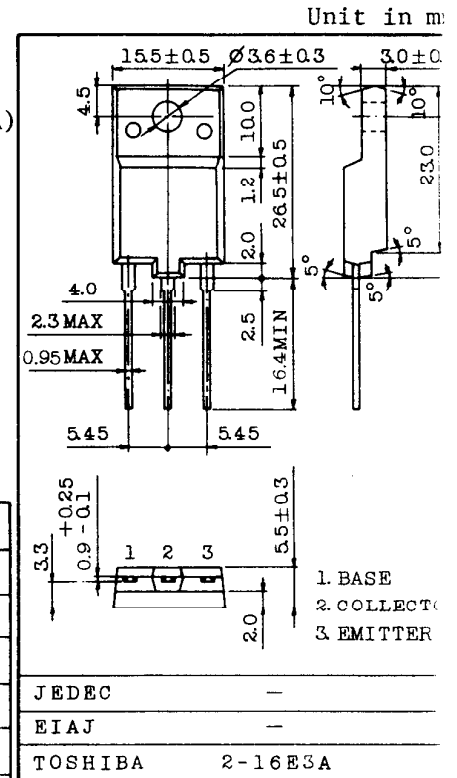
COLOR TV HORIZONTAL OUTPUT APPLICATIONS.

**FEATURES:**

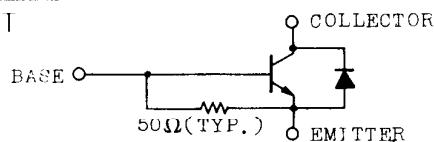
- High Voltage :  $V_{CBO}=1500V$
- Low Saturation Voltage:  $V_{CE(sat)}=5V(Typ.) (I_C=3A, I_B=0.8A)$
- High Speed :  $t_f=1.0\mu s(Max.) (I_{CP}=3A, I_{B1}(end)=0.8A)$
- Built-in Damper Type
- Glass Passivated Collector-Base Junction
- Collector Metal (Fin) is Fully Covered with Mold Resin.  
(IS Package)

**MAXIMUM RATINGS ( $T_c=25^\circ C$ )**

CHARACTERISTIC	SYMBOL	RATING	UNIT
Collector-Base Voltage	$V_{CBO}$	1500	V
Collector-Emitter Voltage	$V_{CEO}$	600	V
Emitter-Base Voltage	$V_{EBO}$	5	V
Collector Current	$I_C$	3.5	A
Base Current	$I_B$	1	A
Collector Power Dissipation	$P_C$	40	W
Junction Temperature	$T_j$	150	$^\circ C$
Storage Temperature Range	$T_{stg}$	-55~150	$^\circ C$



**EQUIVALENT CIRCUIT**



**ELECTRICAL CHARACTERISTICS ( $T_c=25^\circ C$ )**

CHARACTERISTIC	SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Collector Cut-off Current	$I_{CBO}$	$V_{CB}=500V, I_E=0$	-	-	10	$\mu A$
Emitter-Base Breakdown Voltage	$V_{(BR)EBO}$	$I_E=200mA, I_C=0$	5	-	-	V
DC Current Gain	$h_{FE}$	$V_{CE}=5V, I_C=0.5A$	8	12	-	
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C=3A, I_B=0.8A$	-	5	8	V
Base-Emitter Saturation Voltage	$V_{BE(sat)}$	$I_C=3A, I_B=0.8A$	-	-	1.5	V
Forward Voltage (Damper Diode)	$-V_F$	$I_F=3.5A$	-	1.6	2.0	V
Transition Frequency	$f_T$	$V_{CE}=10V, I_C=0.1A$	-	3	-	MHz
Collector Output Capacitance	$C_{ob}$	$V_{CB}=10V, I_E=0, f=1MHz$	-	95	-	pF
Fall Time (Fig.)	$t_f$	$I_{CP}=3A, I_{B1}(end)=0.8A$	-	0.5	1.0	$\mu s$

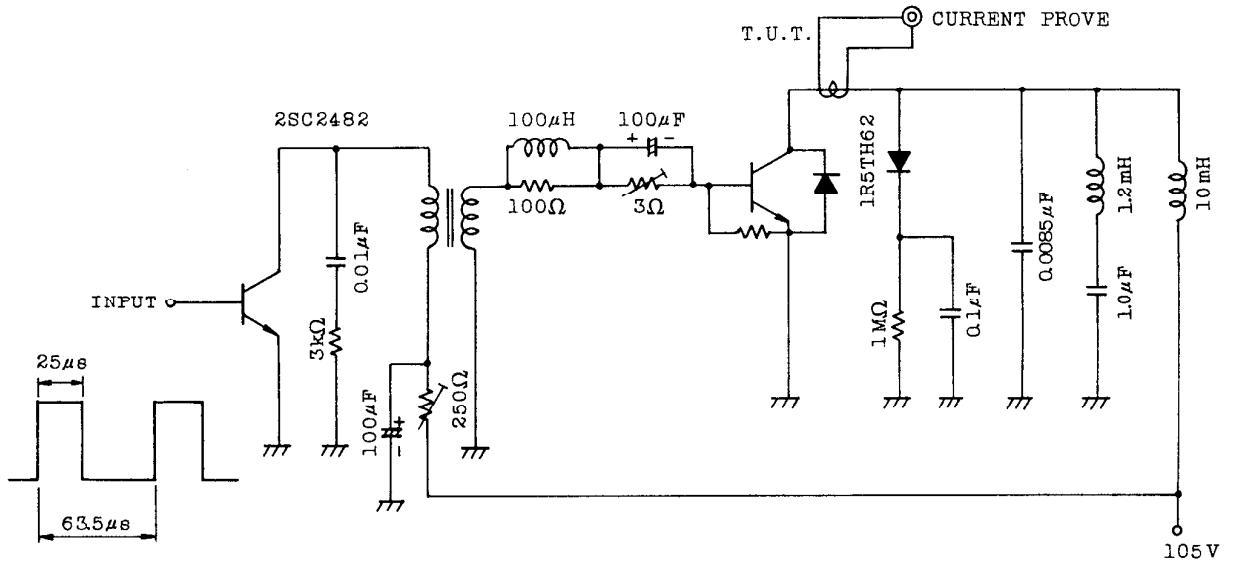
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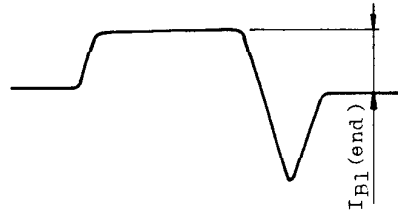
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TOSHIBA CORPORATION

Fig.  $t_f$  TEST CIRCUIT



BASE CURRENT



COLLECTOR CURRENT

