

TOSHIBA TRANSISTOR SILICON NPN TRIPLE DIFFUSED MESA TYPE

2SD2498

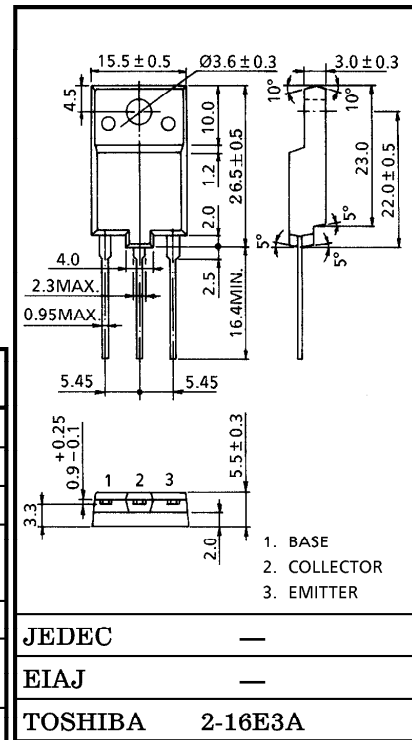
HORIZONTAL DEFLECTION OUTPUT FOR COLOR TV

Unit in mm

- High Voltage : $V_{CBO}=1500V$
- Low Saturation Voltage
: $V_{CE(sat)}=5V$ (Max.) ($I_C=4A, I_B=0.8A$)
- High Speed : $t_f=0.4\mu s$ (Typ.)
- Collector Metal (Fin) is Fully Covered with Mold Resin.

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

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	DC	I_C	6	A
	Pulse	I_{CP}	12	
Base Current		I_B	3	A
Collector Power Dissipation ($T_c = 25^\circ C$)		P_C	50	W
Junction Temperature		T_j	150	$^\circ C$
Storage Temperature Range		T_{stg}	-55~150	$^\circ C$



JEDEC	—
EIAJ	—
TOSHIBA	2-16E3A

Weight : 5.5g

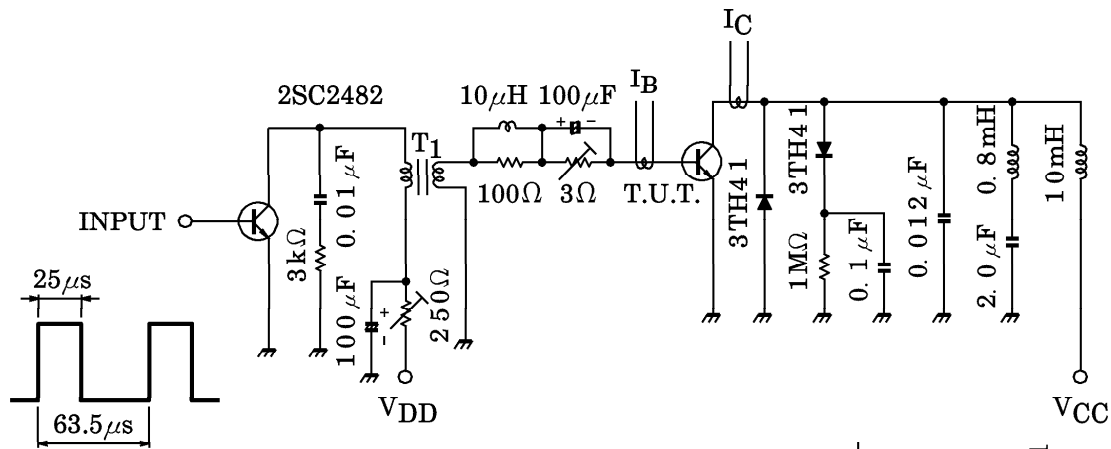
ELECTRICAL CHARACTERISTICS ($T_a = 25^\circ C$)

CHARACTERISTIC	SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Collector Cut-off Current	I_{CBO}	$V_{CB}=1500V, I_E=0$	—	—	1	mA
Emitter Cut-off Current	I_{EBO}	$V_{EB}=5V, I_C=0$	—	—	10	μA
Collector-Emitter Breakdown Voltage	$V_{(BR)CEO}$	$I_C=10mA, I_B=0$	600	—	—	V
DC Current Gain	$h_{FE(1)}$	$V_{CE}=5V, I_C=1A$	10	—	30	
	$h_{FE(2)}$	$V_{CE}=5V, I_C=4A$	5	—	9	
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C=4A, I_B=0.8A$	—	—	5	V
Base-Emitter Saturation Voltage	$V_{BE(sat)}$	$I_C=4A, I_B=0.8A$	—	0.9	1.2	V
Transition Frequency	f_T	$V_{CE}=10V, I_C=0.1A$	—	2	—	MHz
Collector Output Capacitance	C_{ob}	$V_{CB}=10V, I_E=0, f=1MHz$	—	95	—	pF
Switching Time (Fig.1)	Storage Time	$I_{CP}=4A, I_{B1}(end)=0.8A$ $f_H=15.75kHz$	—	8	11	μs
	Fall Time		—	0.4	0.7	

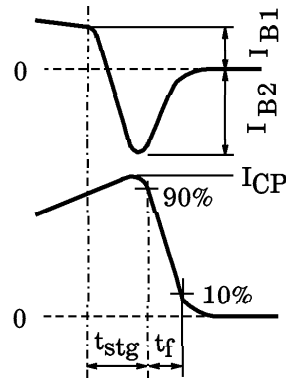
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Fig.1 SWITCHING TIME TEST CIRCUIT



BASE CURRENT



COLLECTOR CURRENT

Base Current Gradient

$$dI_B / dt = \frac{I_{B1} + I_{B2}}{t_{stg}} \text{ (A / } \mu\text{s)}$$

$$\approx 0.3 \text{ (A / } \mu\text{s)}$$

