

TOSHIBA TRANSISTOR SILICON NPN TRIPLE DIFFUSED MESA TYPE

2SD2498

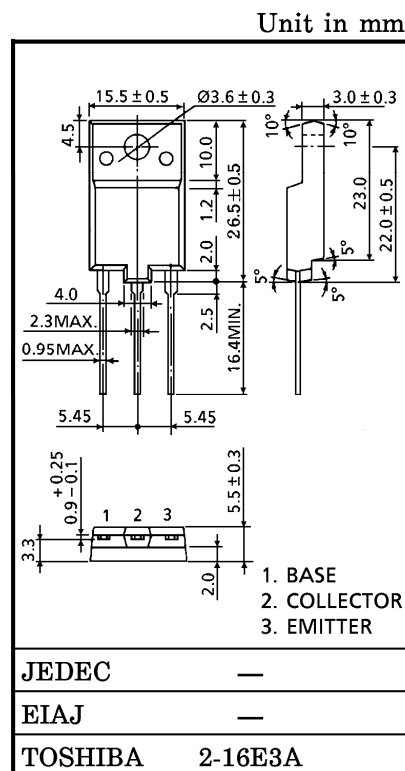
HORIZONTAL DEFLECTION OUTPUT FOR HIGH RESOLUTION DISPLAY, COLOR TV

HIGH SPEED SWITCHING APPLICATIONS

- High Voltage : $V_{CB0} = 1500\text{ V}$
- Low Saturation Voltage : $V_{CE(sat)} = 5\text{ V (Max.)}$
- High Speed : $t_f = 0.4\ \mu\text{s (Typ.)}$
- Collector Metal (Fin) is Fully Covered with Mold Resin.

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

CHARACTERISTIC	SYMBOL	RATING	UNIT
Collector-Base Voltage	V_{CB0}	1500	V
Collector-Emitter Voltage	V_{CEO}	600	V
Emitter-Base Voltage	V_{EBO}	5	V
Collector Current	DC	I_C	6
	Pulse	I_{CP}	12
Base Current	I_B	3	A
Collector Power Dissipation ($T_c = 25^\circ\text{C}$)	P_C	50	W
Junction Temperature	T_j	150	$^\circ\text{C}$
Storage Temperature Range	T_{stg}	-55~150	$^\circ\text{C}$



Weight : 5.5 g (Typ.)

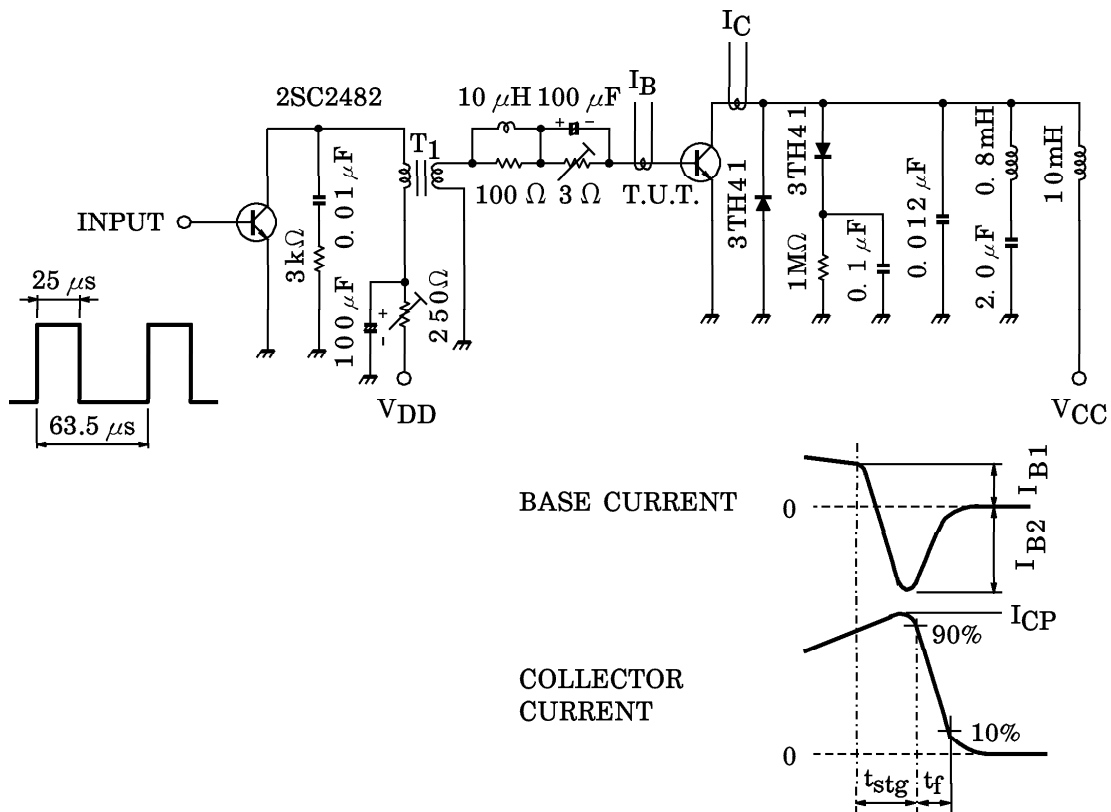
ELECTRICAL CHARACTERISTICS ($T_a = 25^\circ\text{C}$)

CHARACTERISTIC	SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Collector Cut-off Current	I_{CBO}	$V_{CB} = 1500\text{ V}, I_E = 0$	—	—	1	mA
Emitter Cut-off Current	I_{EBO}	$V_{EB} = 5\text{ V}, I_C = 0$	—	—	10	μA
Collector-Emitter Breakdown Voltage	$V_{(BR)CEO}$	$I_C = 10\text{ mA}, I_B = 0$	600	—	—	V
DC Current Gain	$h_{FE(1)}$	$V_{CE} = 5\text{ V}, I_C = 1\text{ A}$	10	—	30	—
	$h_{FE(2)}$	$V_{CE} = 5\text{ V}, I_C = 4\text{ A}$	5	—	9	
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C = 4\text{ A}, I_B = 0.8\text{ A}$	—	—	5	V
Base-Emitter Saturation Voltage	$V_{BE(sat)}$	$I_C = 4\text{ A}, I_B = 0.8\text{ A}$	—	0.9	1.2	V
Transition Frequency	f_T	$V_{CE} = 10\text{ V}, I_E = 0.1\text{ A}$	—	2	—	MHz
Collector Output Capacitance	C_{ob}	$V_{CB} = 10\text{ V}, I_E = 0, f = 1\text{ MHz}$	—	95	—	pF
Switching Time (Fig.1)	Storage Time	$I_{CP} = 4\text{ A}, I_{B1}(\text{end}) = 0.8\text{ A}$	—	7	10	μs
	Fall Time		t_{stg}	t_f	0.4	

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Fig.1 SWITCHING TIME TEST CIRCUIT



Base Current Gradient

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

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

