

TOSHIBA TRANSISTOR SILICON NPN TRIPLE DIFFUSED MESA TYPE

2SD2498

HORIZONTAL DEFLECTION OUTPUT FOR HIGH RESOLUTION
DISPLAY, COLOR TV

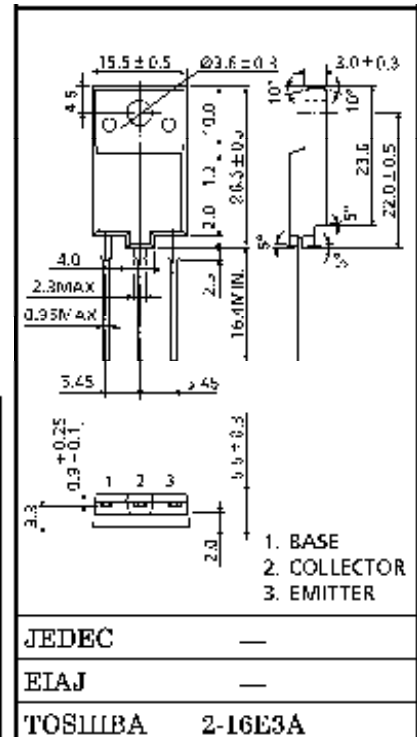
HIGH SPEED SWITCHING APPLICATIONS

- High Voltage : $V_{CBO} = 1500\text{ V}$
- Low Saturation Voltage : $V_{CE(sat)} = 5\text{ V (Max.)}$
- High Speed : $t_f = 0.4\text{ }\mu\text{s (Typ.)}$
- 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_{CBO}	1500	V
Collector-Emitter Voltage	V_{CEO}	600	V
Emitter-Base Voltage	V_{EBQ}	5	V
Collector Current	DC I_C	8	A
	Pulse I_{CP}	12	
Base Current	I_B	8	A
Collector Power Dissipation ($T_c = 25^\circ\text{C}$)	P_C	60	W
Junction Temperature	T_j	150	$^\circ\text{C}$
Storage Temperature Range	T_{stg}	-55~150	$^\circ\text{C}$

Unit in mm



JEDEC

EIAJ

TOSHIBA 2-16E3A

Weight : 5.5 g (Typ.)

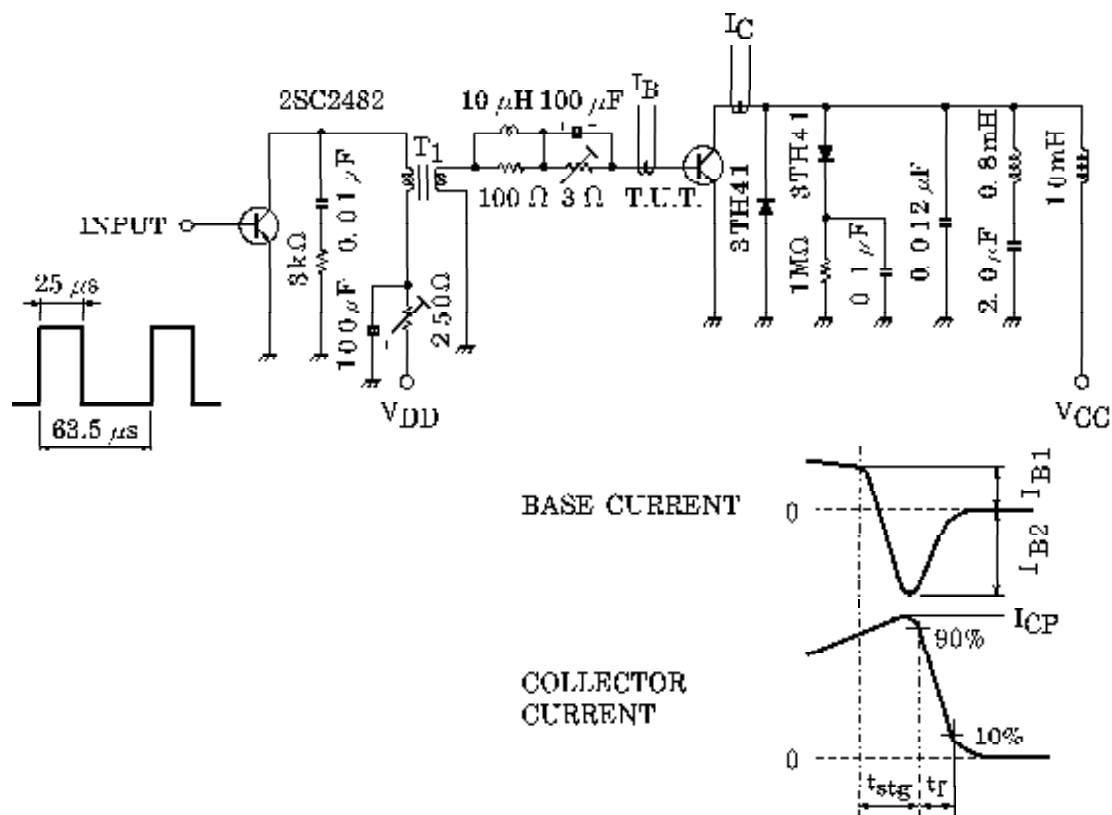
ELECTRICAL CHARACTERISTICS ($T_a = 25^\circ\text{C}$)

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 t_{atg}	$I_{CP} = 4\text{ A}, I_{B1}(\text{end}) = 0.8\text{ A}$ $f_{II} = 64\text{ kHz}$	—	7	10	μs
	Fall Time t_f		—	0.4	0.7	

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Fig.1 SWITCHING TIME TEST CIRCUIT



Base Current Gradient

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

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

