

TOSHIBA TRANSISTOR SILICON NPN TRIPLE DIFFUSED MESA TYPE

2SC5148

HORIZONTAL DEFLECTION OUTPUT FOR HIGH RESOLUTION DISPLAY, COLOR TV

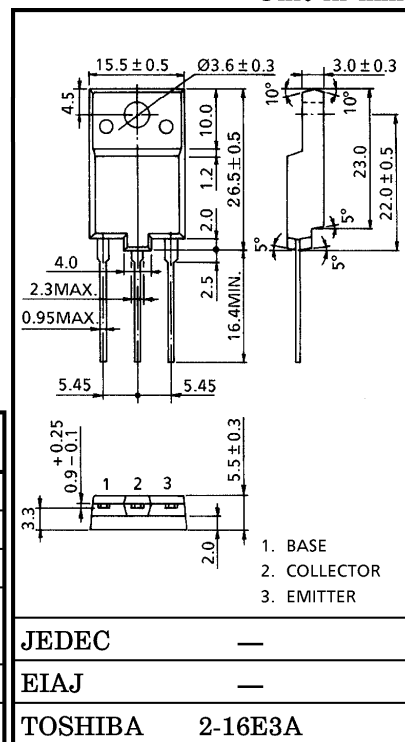
Unit in mm

HIGH SPEED SWITCHING APPLICATIONS

- High Speed : $t_f = 0.15 \mu s$ (Typ.)
- High Voltage : $V_{CBO} = 1500V$
- Low Saturation Voltage : $V_{CE(sat)} = 5V$ (Max.) ($I_C = 5A, I_B = 1.3A$)
- 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	8	A
	Pulse	I_{CP}	16	
Base Current		I_B	4	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	$^\circ C$



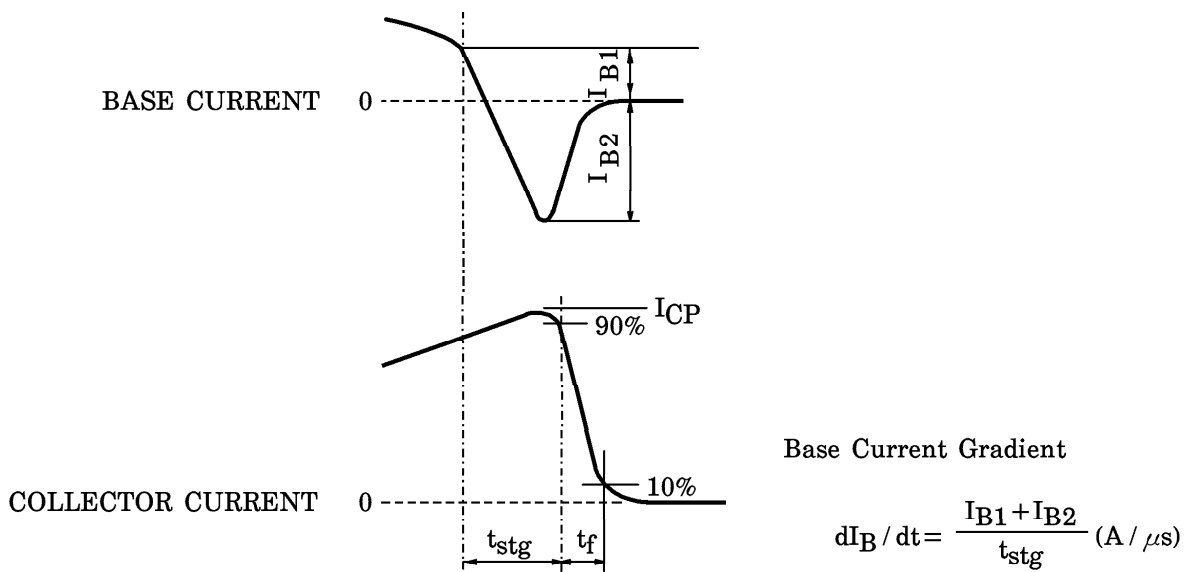
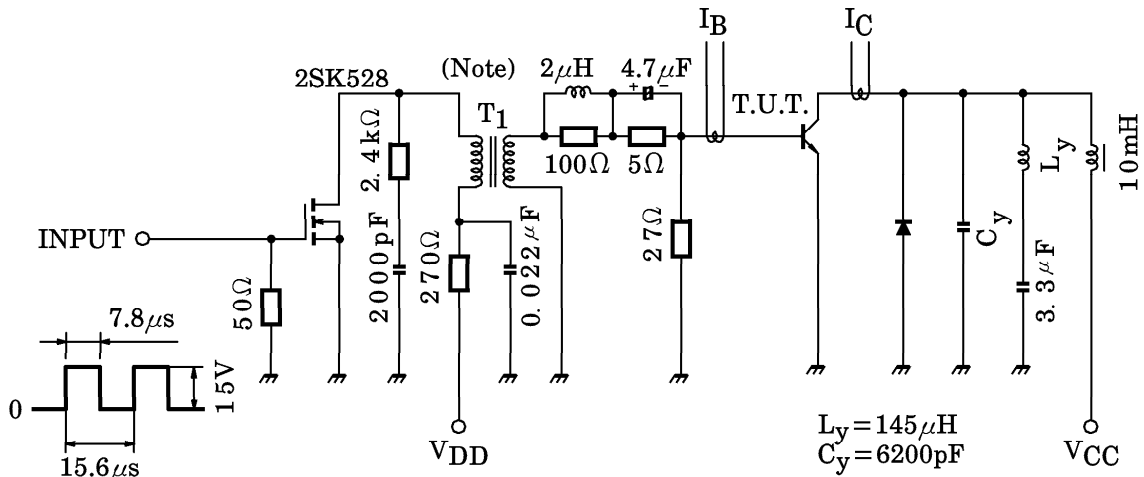
ELECTRICAL CHARACTERISTICS ($T_a = 25^\circ C$)

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	$h_{FE(1)}$	$V_{CE} = 5V, I_C = 1A$	8	—	25	
	$h_{FE(2)}$	$V_{CE} = 5V, I_C = 5A$	3.8	—	8.0	
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C = 5A, I_B = 1.3A$	—	—	5	V
Base-Emitter Saturation Voltage	$V_{BE(sat)}$	$I_C = 5A, I_B = 1.3A$	—	1.0	1.3	V
Transition Frequency	f_T	$V_{CE} = 10V, I_C = 0.1A$	—	2	—	MHz
Collector Output Capacitance	C_{ob}	$V_{CB} = 10V, I_E = 0, f = 1MHz$	—	110	—	pF
Switching Time (Fig.1)	Storage Time	t_{stg}	—	2.5	4	μs
	Fall Time	t_f				

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Fig.1 SWITCHING TIME TEST CIRCUIT



Note : Leakage Inductance of secondary winding LB is $1.2\mu\text{H}$

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