

TOSHIBA TRANSISTOR SILICON NPN TRIPLE DIFFUSED MESA TYPE

2SC5150

HORIZONTAL DEFLECTION OUTPUT FOR HIGH RESOLUTION DISPLAY, COLOR TV.

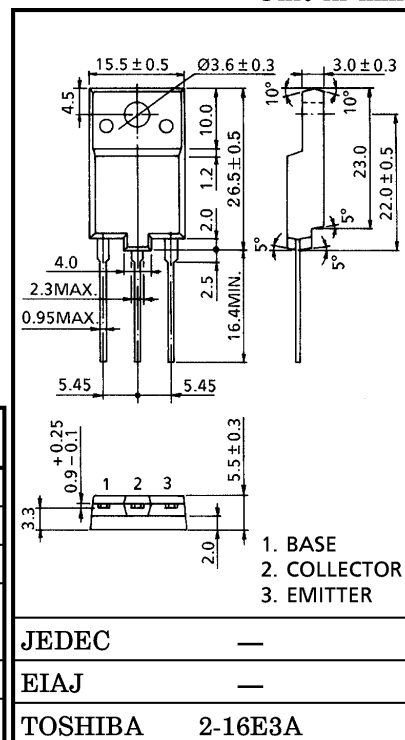
Unit in mm

HIGH SPEED SWITCHING APPLICATIONS.

- High Voltage : $V_{CBO} = 1700V$
- Low Saturation Voltage
: $V_{CE(sat)} = 3V$ (Max.) ($I_C = 6A, I_B = 1.5A$)
- High Speed : $t_f = 0.15\mu s$ (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}	1700	V
Collector-Emitter Voltage	V_{CEO}	700	V
Emitter-Base Voltage	V_{EBO}	5	V
Collector Current	DC	I_C	10
	Pulse	I_{CP}	20
Base Current	I_B	5	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	$^\circ C$



Weight : 5.5g

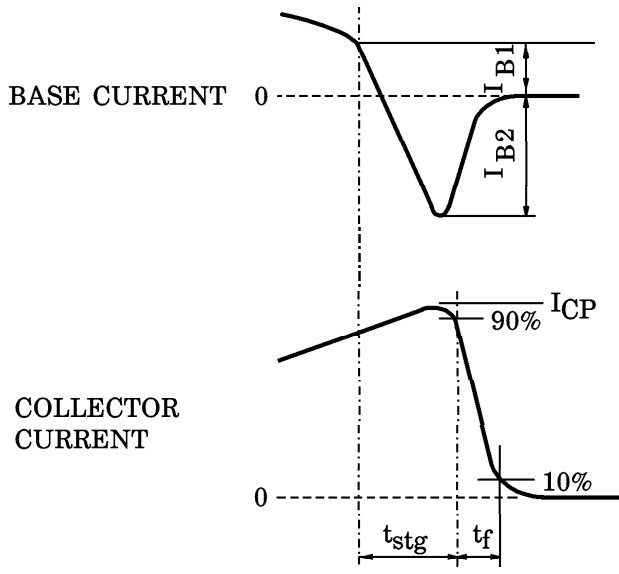
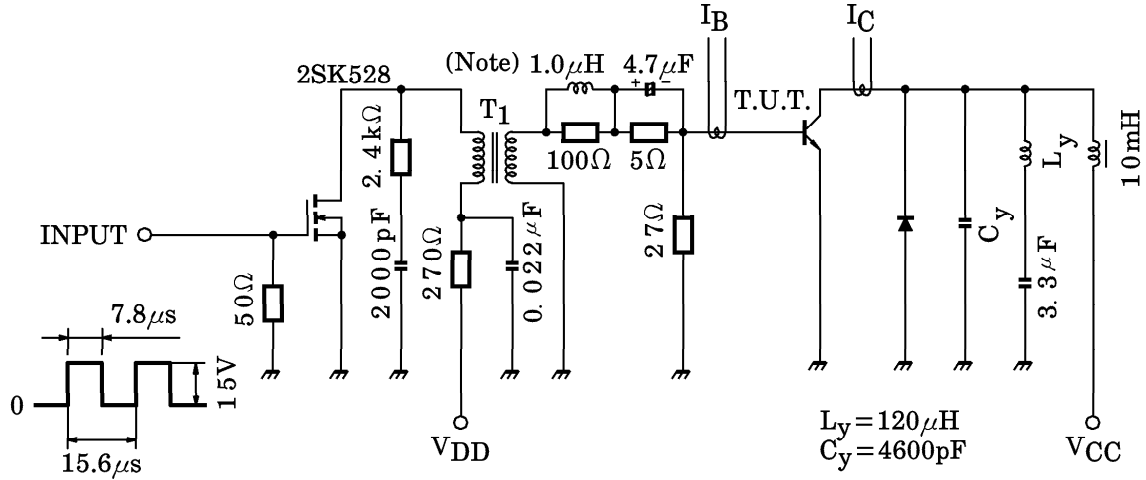
ELECTRICAL CHARACTERISTICS ($T_a = 25^\circ C$)

CHARACTERISTIC	SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Collector Cut-off Current	I_{CBO}	$V_{CB} = 1700V, I_E = 0$	—	—	1	mA
Emitter Cut-off Current	I_{EBO}	$V_{EB} = 5V, I_C = 0$	—	—	10	μA
Collector-Emitter Breakdown Voltage	$V_{(BR)CEO}$	$I_C = 10mA, I_B = 0$	700	—	—	V
DC Current Gain	$h_{FE(1)}$	$V_{CE} = 5V, I_C = 1A$	10	—	28	
	$h_{FE(2)}$	$V_{CE} = 5V, I_C = 6A$	4	—	8.5	
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C = 6A, I_B = 1.5A$	—	—	3	V
Base-Emitter Saturation Voltage	$V_{BE(sat)}$	$I_C = 6A, I_B = 1.5A$	—	0.9	1.2	V
Transition Frequency	f_T	$V_{CE} = 10V, I_C = 0.1A$	—	2	—	MHz
Collector Output Capacitance	C_{ob}	$V_{CB} = 10V, I_E = 0, f = 1MHz$	—	185	—	pF
Switching Time (Fig.1)	Storage Time	$I_{CP} = 5A, I_{B1}(end) = 1.0A$ $f_H = 64kHz$	—	2.5	4.0	μs
	Fall Time		—	0.15	0.3	

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Fig.1 SWITCHING TIME TEST CIRCUIT



Base Current Gradient

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

Note : Leakage Inductance of secondary winding LB is 1.2 μH

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