

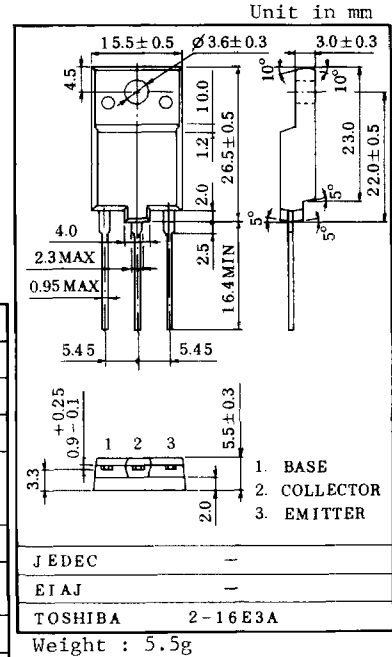
HORIZONTAL DEFLECTION OUTPUT FOR HIGH RESOLUTION DISPLAY.

HIGH SPEED SWITCHING REGULATOR OUTPUT APPLICATIONS.

- High Voltage : $V_{CBO} \geq 1500V$
- High Speed Switching (Resistive Load) $t_f = 0.1\mu s$ (Typ.)
- Collector Metal is Fully Covered with Mold Resin.

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

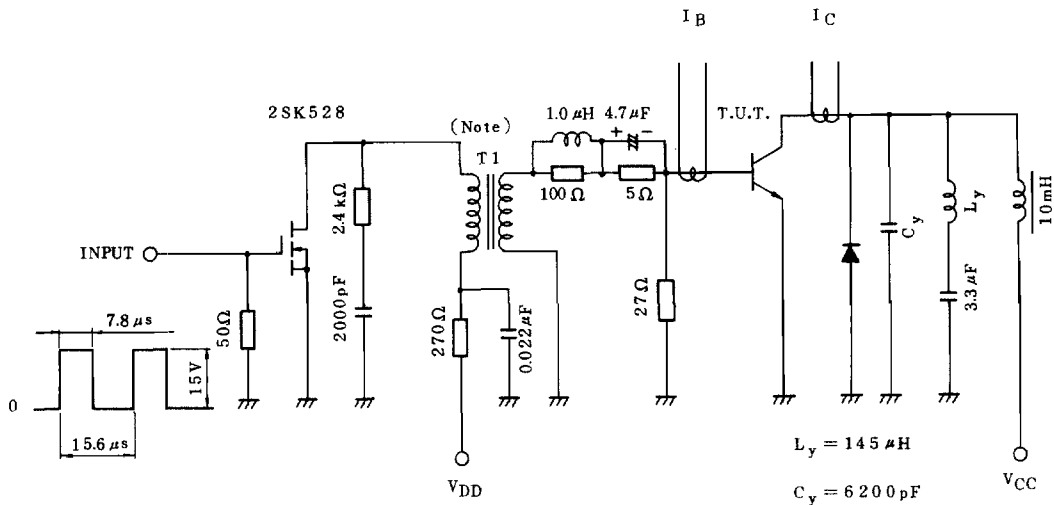
CHARACTERISTIC		SYMBOL	RATING	UNIT
Collector-Base Voltage		V_{CBO}	1500	V
Collector-Emitter Voltage		V_{CEO}	600	V
Emitter-Base Voltage		V_{EBO}	5	V
Collector-Current	DC	I_C	6	A
	Pulse	I_{CP}	12	
Base-Current		I_B	3	A
Collector Power Dissipation ($T_c = 25^\circ C$)		P_C	50	W
Junction Temperature		T_j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



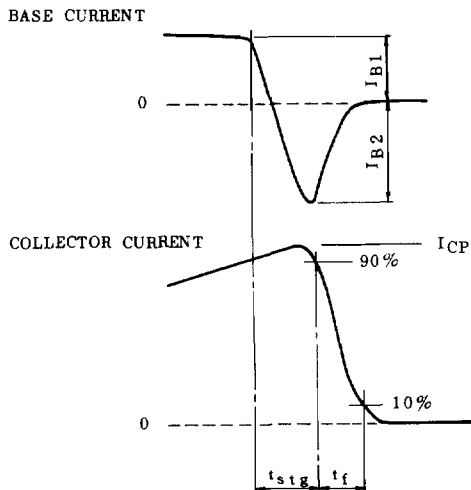
ELECTRICAL CHARACTERISTICS ($T_c = 25^\circ C$)

CHARACTERISTIC		SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT	
Collector Cut-off Current		I_{CBO}	$V_{CB} = 1500V, I_E = 0$	-	-	1.0	mA	
Emitter Cut-off Current		I_{EBO}	$V_{EB} = 5V, I_C = 0$	-	-	10	μA	
Collector-Emitter Breakdown Voltage		$V_{(BR)CEO}$	$I_C = 5mA, I_B = 0$	600	-	-	V	
DC Current Gain		h_{FE}	$V_{CE} = 5V, I_C = 1A$	8	15	-	-	
Collector-Emitter Saturation Voltage		$V_{CE(sat)}$	$I_C = 4A, I_B = 1.0A$	-	-	5	V	
Base-Emitter Saturation Voltage		$V_{BE(sat)}$	$I_C = 4A, I_B = 1.0A$	-	-	1.5	V	
Transition Frequency		f_T	$V_{CE} = 10V, I_C = 0.1A$	1	3	-	MHz	
Collector Output Capacitance		C_{ob}	$V_{CB} = 10V, I_E = 0, f = 1MHz$	-	210	-	pF	
Switching Time	Inductive Load (Fig.1)	t_{stg}	$I_{CP} = 4A, I_{B1} = 0.8A, f_H = 64kHz, L_Y = 145\mu H, C_Y = 6200pF$	-	2.5	4.0	μs	
		t_f		-	0.15	0.3		
	Resistive Load (Fig.2)	t_{stg}		$I_{CP} = 4A, I_{B1} = 0.8A$	-	1.2		2.5
		t_f		$I_{B2} = -1.6A, R_L = 50\Omega$	-	0.1		0.15

Fig. 1 SWITCHING TIME TEST CIRCUIT (Inductive Load)



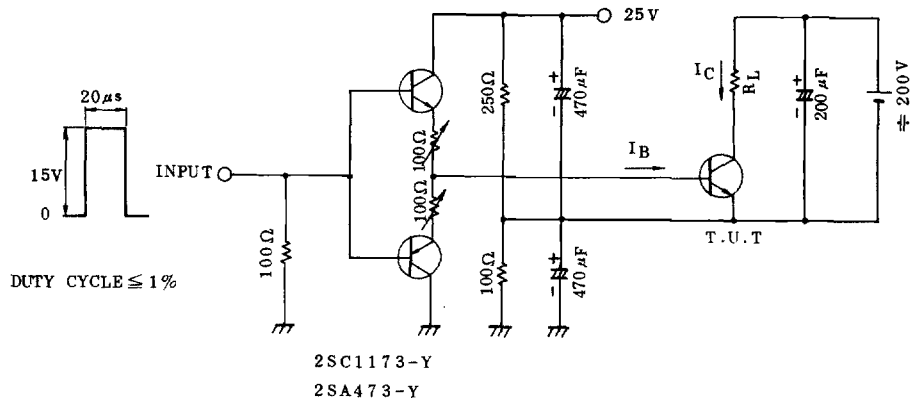
Note : Leakage Inductance of secondary winding LB is 1.2 μ H.



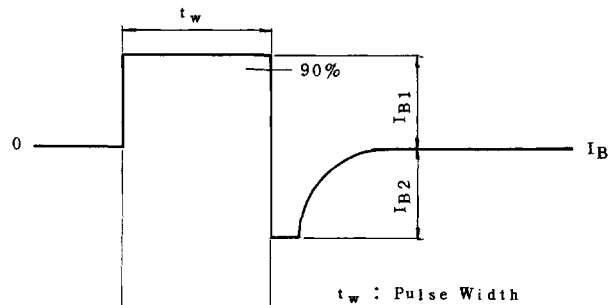
Base Current Gradient

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

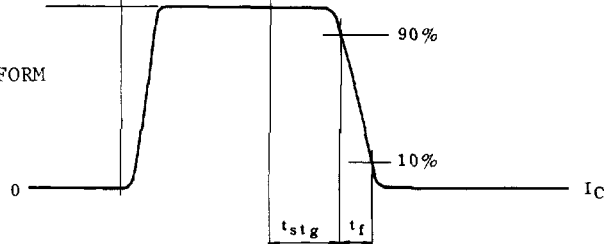
Fig. 2 SWITCHING TIME TEST CIRCUIT (Resistive Load)



I_B : BASE CURRENT WAVEFORM



I_C : COLLECTOR CURRENT WAVEFORM



2SC3884A

