

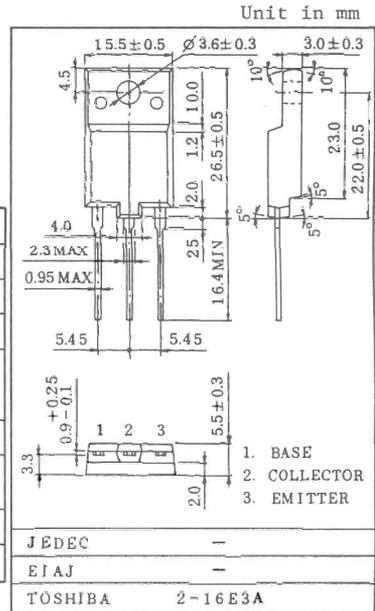
# 2SC3893A

HORIZONTAL DEFLECTION OUTPUT FOR HIGH RESOLUTION DISPLAY.

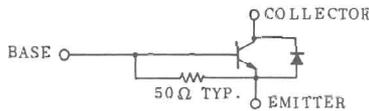
- High Voltage :  $V_{CB0} \geq 1500V$
- High Speed Switching : (Resistive Load)  $t_f = 0.2\mu s$  (Typ.)
- Collector Metal is Fully Covered with Mold Resin.
- Built-in Damper Diode.

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

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	$I_C$	8
	Pulse	$I_{CP}$	15
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	$^\circ C$



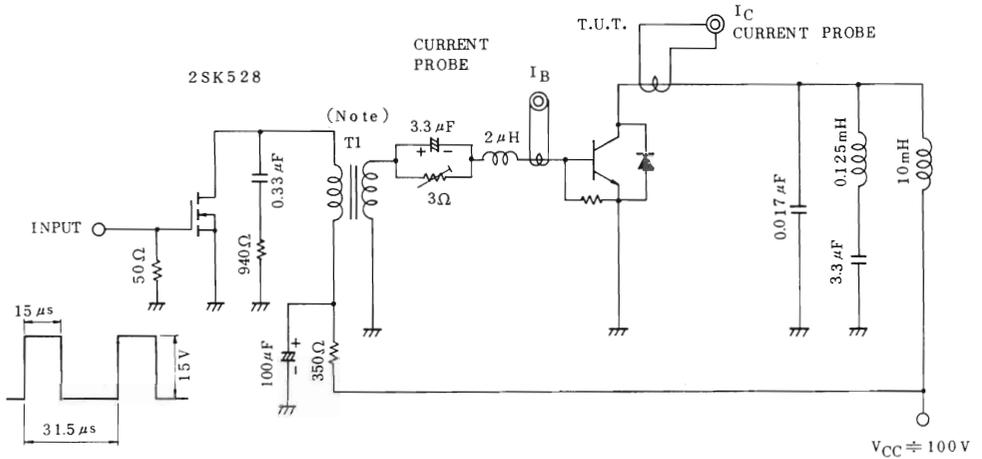
EQUIVALENT CIRCUIT



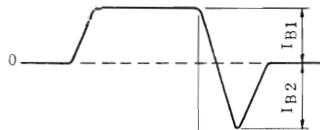
ELECTRICAL CHARACTERISTICS ( $T_c = 25^\circ C$ )

CHARACTERISTIC	SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT	
Collector Cut-off Current	$I_{CBO}$	$V_{CB} = 500V, I_E = 0$	-	-	10	$\mu A$	
Emitter Cut-off Current	$I_{EBO}$	$V_{EB} = 5V, I_C = 0$	66	100	200	mA	
Emitter-Base Breakdown Voltage	$V_{(BR)EBO}$	$I_E = 200mA, I_C = 0$	5	-	-	V	
DC Current Gain	$h_{FE}$	$V_{CE} = 5V, I_C = 1A$	8	12	-	-	
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C = 6A, I_B = 1.5A$	-	-	5	V	
Base-Emitter Saturation Voltage	$V_{BE(sat)}$	$I_C = 6A, I_B = 1.5A$	-	-	1.5	V	
Damper Diode Forward Voltage	$-V_F$	$I_F = 6A$	-	1.5	2.0	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)	$t_{stg}$	$I_{CP} = 6A, I_{B1} = 1.2A$	-	4	6	$\mu s$
		$t_f$	$L_Y = 125\mu H, C_Y = 17000pF$	-	0.2	0.5	
	Resistive Load (Fig.2)	$t_{stg}$	$I_{CP} = 6A, I_{B1} = 1.2A$	-	1.5	2.5	
		$t_f$	$I_{B2} = -2.4A, R_L = 33.3\Omega$	-	0.1	0.2	

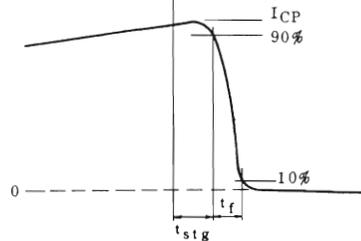
Fig. 1 SWITCHING TIME TEST CIRCUIT (Inductive Load)



BASE CURRENT



COLLECTOR CURRENT



Note : Leakage Inductance of secondary winding  $L_B$  is 1.2  $\mu$ H.

Base Current Gradient

$$\frac{dI_B}{dt} = \frac{I_{B1} + I_{B2}}{t_{stg}}$$

Fig. 2 SWITCHING TIME TEST CIRCUIT (Resistive Load)

