

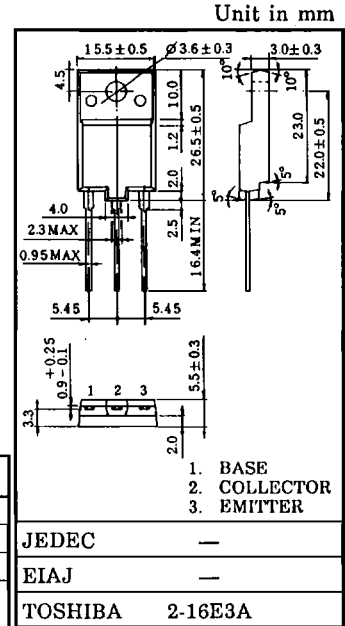
(2SC4916)

HORIZONTAL OUTPUT APPLICATIONS FOR
MEDIUM RESOLUTION DISPLAY & COLOR TV.

- High Speed : $t_f = 0.2\mu s$ (Typ.)
- High Voltage : $V_{CB0} = 1500V$
- Low Saturation Voltage : $V_{CE(sat)} = 5V$ (Max.) ($I_C = 5A, I_B = 1A$)
- Built-in Damper Type
- Glass Passivated Collector-Base Junction
- Collector Metal (Fin) is Fully Covered with Mold Resin

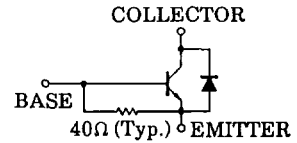
MAXIMUM RATINGS ($T_a = 25^\circ C$)

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	7	A
	Pulse	I_{CP}	14	
Base Current		I_B	3.5	A
Collector Power Dissipation		P_c	50	W
Junction Temperature		T_j	150	$^\circ C$
Storage Temperature Range		T_{stg}	-55~150	$^\circ C$



Weight : 5.5g

EQUIVALENT CIRCUIT

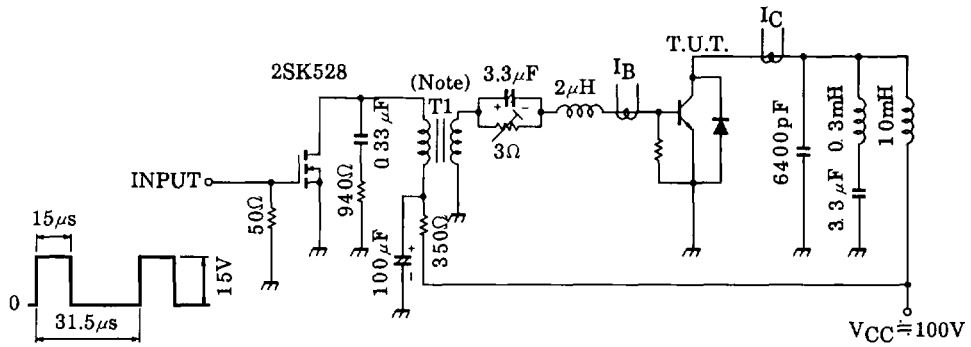


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ELECTRICAL CHARACTERISTICS ($T_a = 25^\circ C$)

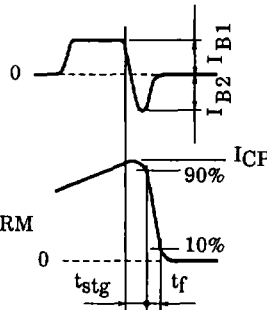
CHARACTERISTIC			SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Collector Cut-off Current			I_{CB0}	$V_{CB} = 1500V, I_E = 0$	—	—	1	mA
Emitter Cut-off Current			I_{EBO}	$V_{EB} = 5V, I_C = 0$	83	—	250	mA
Emitter-Base Breakdown Voltage			V_{EBO}	$I_E = 300mA, I_C = 0$	5	—	—	V
DC Current Gain			h_{FE}	$V_{CE} = 5V, I_C = 1A$	8	12	20	
				$V_{CE} = 5V, I_C = 5A$	5	—	9	
Collector-Emitter Saturation Voltage			$V_{CE(sat)}$	$I_C = 5A, I_B = 1A$	—	—	5	V
Base-Emitter Saturation Voltage			$V_{BE(sat)}$	$I_C = 5A, I_B = 1A$	—	—	1.5	V
Forward Voltage (Damper Diode)			$-V_F$	$I_F = 5A$	—	1.3	1.8	V
Transition Frequency			f_T	$V_{CE} = 10V, I_C = 0.1A$	1	3	—	MHz
Collector Output Capacitance			C_{ob}	$V_{CB} = 10V, I_E = 0, f = 1MHz$	—	160	—	pF
Switching Time	Inductive Load (Fig.1)	Storage Time	t_{stg}	$I_{CP} = 5A, I_{B1}(end) = 1A$	—	5.5	8.0	μs
		Fall Time	t_f	$f_H = 31.5kHz$	—	0.2	0.5	
	Resistive Load (Fig.2)	Storage Time	t_{stg}	$I_C = 5A, I_{B1} = 1A$	—	2.0	3.0	
		Fall Time	t_f	$I_{B2} = -2A, R_L = 39\Omega$	—	0.1	0.2	

Fig. 1 SWITCHING TIME TEST CIRCUIT (Inductive Load)



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

I_B : BASE CURRENT WAVEFORM

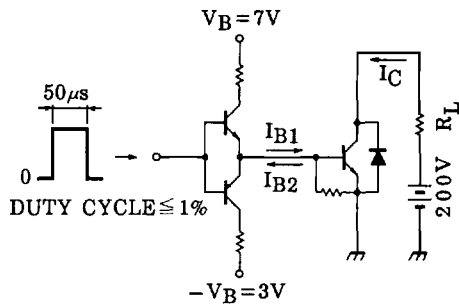


I_C : COLLECTOR CURRENT WAVEFORM

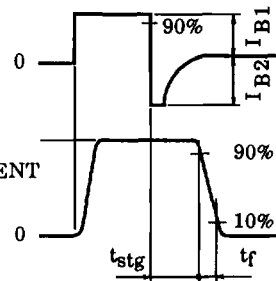
Base Current Gradient

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

Fig. 2 SWITCHING TIME TEST CIRCUIT (Resistive Load)



I_B : BASE CURRENT WAVEFORM



I_C : COLLECTOR CURRENT WAVEFORM

