

TOSHIBA TRANSISTOR SILICON NPN TRIPLE DIFFUSED MESA TYPE

2SD2539

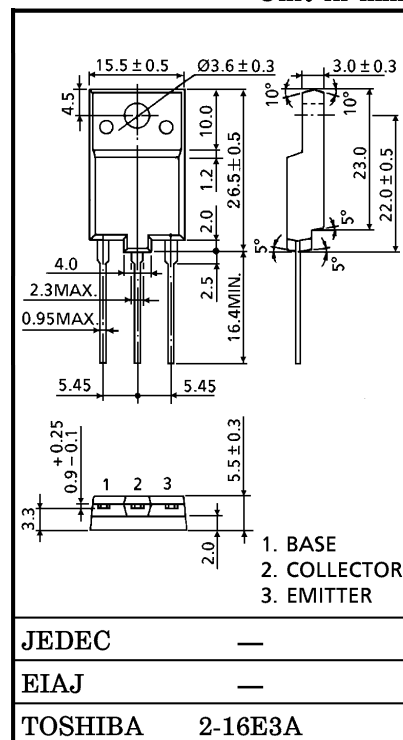
HORIZONTAL DEFLECTION OUTPUT FOR COLOR TV

Unit in mm

- High Voltage : $V_{CB0} = 1500\text{ V}$
- Low Saturation Voltage : $V_{CE(sat)} = 5\text{ V (Max.)}$
- High Speed : $t_f = 0.3\ \mu\text{s (Typ.)}$
- Built-in Damper Type
- Collector Metal (Fin) is Fully Covered with Mold Resin.

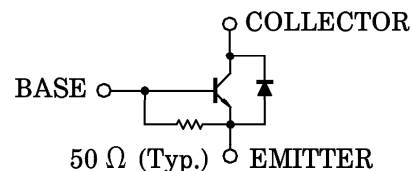
MAXIMUM RATINGS ($T_a = 25^\circ\text{C}$)

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	7	A
	Pulse	14	
Base Current	I_B	3.5	A
Collector Power Dissipation ($T_c = 25^\circ\text{C}$)	P_C	50	W
Junction Temperature	T_j	150	$^\circ\text{C}$
Storage Temperature Range	T_{stg}	$-55\sim 150$	$^\circ\text{C}$



Weight : 5.5 g (Typ.)

EQUIVALENT CIRCUIT



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ELECTRICAL CHARACTERISTICS (Ta = 25°C)

CHARACTERISTIC		SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Collector Cut-off Current		I_{CBO}	$V_{CB} = 1500 \text{ V}, I_E = 0$	—	—	1	mA
Emitter Cut-off Current		I_{EBO}	$V_{EB} = 5 \text{ V}, I_C = 0$	66	—	200	mA
Emitter-Base Breakdown Voltage		V_{EBO}	$I_E = 400 \text{ mA}, I_C = 0$	5	—	—	V
DC Current Gain		$h_{FE}(1)$	$V_{CE} = 5 \text{ V}, I_C = 1 \text{ A}$	8	—	28	
		$h_{FE}(2)$	$V_{CE} = 5 \text{ V}, I_C = 5 \text{ A}$	5	—	9	
Collector-Emitter Saturation Voltage		$V_{CE}(\text{sat})$	$I_C = 5 \text{ A}, I_B = 1.0 \text{ A}$	—	—	5	V
Base-Emitter Saturation Voltage		$V_{BE}(\text{sat})$	$I_C = 5 \text{ A}, I_B = 1.0 \text{ A}$	—	1.0	1.3	V
Forward Voltage (Damper Diode)		$-V_F$	$I_F = 5 \text{ A}$	—	1.6	2.0	V
Transition Frequency		f_T	$V_{CE} = 10 \text{ V}, I_C = 0.1 \text{ A}$	—	2	—	MHz
Collector Output Capacitance		C_{ob}	$V_{CB} = 10 \text{ V}, I_E = 0, f = 1 \text{ MHz}$	—	115	—	pF
Switching Time	Storage Time	t_{stg}	$I_{CP} = 5 \text{ A}, I_{B1}(\text{end}) = 1.0 \text{ A},$ $fH = 15.75 \text{ kHz}$	—	6	9	μs
	Fall Time	t_f		—	0.3	0.6	

Fig.1 SWITCHING TIME TEST CIRCUIT

