

TOSHIBA TRANSISTOR SILICON NPN TRIPLE DIFFUSED MESA TYPE

# 2SD2539

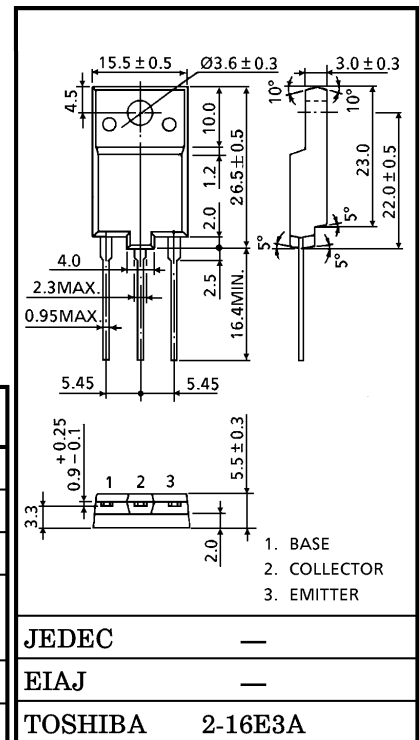
HORIZONTAL DEFLECTION OUTPUT FOR COLOR TV

Unit in mm

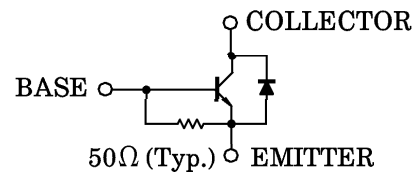
- High Voltage :  $V_{CBO} \geq 1500V$
- Low Saturation Voltage  
:  $V_{CE(sat)} = 5V$  (Max.) ( $I_C = 5A, I_B = 1.0A$ )
- High Speed :  $t_f = 0.3\mu s$  (Typ.)
- Built-in Damper Type
- Collector Metal (Fin) is Fully Covered with Mold Resin.

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

CHARACTERISTIC	SYMBOL	RATING	UNIT
Collector-Base Voltage	$V_{CBO}$	1500	V
Collector-Emitter Voltage	$V_{CEO}$	600	V
Emitter-Base Voltage	$V_{EBO}$	5	V
Collector Current	DC	$I_C$	7
	Pulse	$I_{CP}$	14
Base Current	$I_B$	3.5	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	$^\circ C$



EQUIVALENT CIRCUIT



961001EAA2

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ELECTRICAL CHARACTERISTICS (Ta = 25°C)

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

Fig.1 SWITCHING TIME TEST CIRCUIT

