

TOSHIBA TRANSISTOR SILICON NPN TRIPLE DIFFUSED MESA TYPE

2SD2599

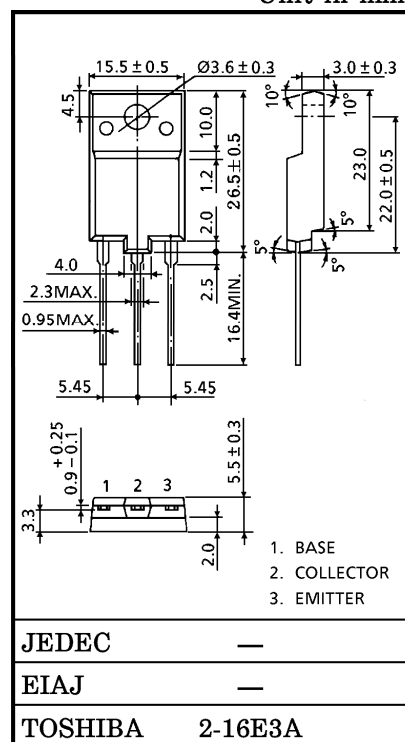
HORIZONTAL DEFLECTION OUTPUT FOR COLOR TV

Unit in mm

- High Voltage : $V_{CB0} = 1500\text{ V}$
- Low Saturation Voltage : $V_{CE(sat)} = 8\text{ V (Max.)}$
- High Speed : $t_f = 0.5\text{ }\mu\text{s (Typ.)}$
- Built-in Damper Type
- Collector Metal (Fin) is Fully Covered with Mold Resin.

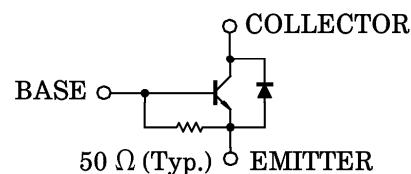
MAXIMUM RATINGS ($T_a = 25^\circ\text{C}$)

CHARACTERISTIC		SYMBOL	RATING	UNIT
Collector-Base Voltage		V_{CB0}	1500	V
Collector-Emitter Voltage		V_{CEO}	600	V
Emitter-Base Voltage		V_{EB0}	5	V
Collector Current	DC	I_C	3.5	A
	Pulse	I_{CP}	7	
Base Current		I_B	1	A
Collector Power Dissipation ($T_c = 25^\circ\text{C}$)		P_C	40	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}	$I_E = 300\text{ mA}, I_C = 0$	5	—	—	V
DC Current Gain		h_{FE}	$V_{CE} = 5\text{ V}, I_C = 0.5\text{ A}$	8	—	25	
Collector-Emitter Saturation Voltage		$V_{CE(sat)}$	$I_C = 3\text{ A}, I_B = 0.8\text{ A}$	—	5	8	V
Base-Emitter Saturation Voltage		$V_{BE(sat)}$	$I_C = 3\text{ A}, I_B = 0.8\text{ A}$	—	0.9	1.5	V
Forward Voltage (Damper Diode)		$-V_F$	$I_F = 3.5\text{ A}$	—	1.5	2.0	V
Transition Frequency		f_T	$V_{CE} = 10\text{ V}, I_C = 0.1\text{ A}$	—	3	—	MHz
Collector Output Capacitance		C_{ob}	$V_{CB} = 10\text{ V}, I_E = 0, f = 1\text{ MHz}$	—	55	—	pF
Switching Time	Storage Time	t_{stg}	$I_{CP} = 3\text{ A}, I_{B1}(\text{end}) = 0.8\text{ A}, f_H = 15.75\text{ kHz}$	—	7.5	10	μs
	Fall Time	t_f		—	0.5	1.0	

