

TOSHIBA TRANSISTOR SILICON NPN TRIPLE DIFFUSED MESA TYPE

# 2SD2553

HORIZONTAL DEFLECTION OUTPUT FOR HIGH RESOLUTION DISPLAY, COLOR TV

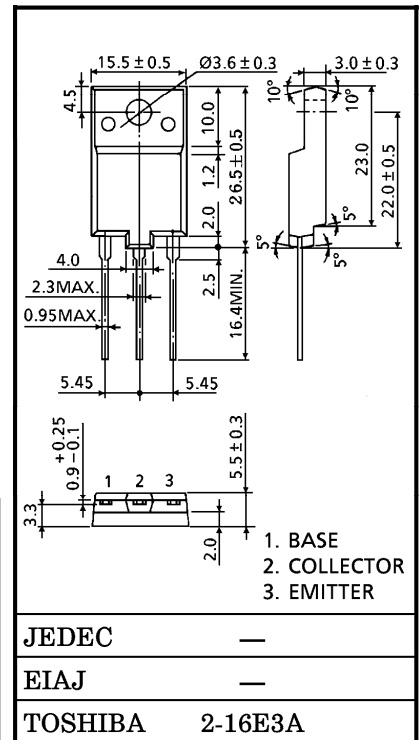
HIGH SPEED SWITCHING APPLICATIONS

- High Voltage :  $V_{CBO} = 1700\text{ V}$
- 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 ( $T_a = 25^\circ\text{C}$ )

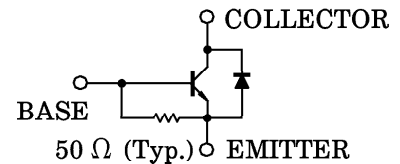
CHARACTERISTIC	SYMBOL	RATING	UNIT
Collector-Base Voltage	$V_{CBO}$	1700	V
Collector-Emitter Voltage	$V_{CEO}$	600	V
Emitter-Base Voltage	$V_{EBO}$	5	V
Collector Current	DC	$I_C$	8
	Pulse	$I_{CP}$	16
Base Current	$I_B$	4	A
Collector Power Dissipation ( $T_c = 25^\circ\text{C}$ )	$P_C$	50	W
Junction Temperature	$T_j$	150	$^\circ\text{C}$
Storage Temperature Range	$T_{stg}$	-55~150	$^\circ\text{C}$

Unit in mm



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	$I_{CBO}$	$V_{CB} = 1700\text{ V}, I_E = 0$	—	—	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	—
	$h_{FE}(2)$	$V_{CE} = 5\text{ V}, I_C = 6\text{ A}$	5	—	9	
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C = 6\text{ A}, I_B = 1.2\text{ A}$	—	—	5	V
Base-Emitter Saturation Voltage	$V_{BE(sat)}$	$I_C = 6\text{ A}, I_B = 1.2\text{ A}$	—	0.9	1.2	V
Forward Voltage (Damper Diode)	$-V_F$	$I_F = 8\text{ A}$	—	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	$C_{ob}$	$V_{CB} = 10\text{ V}, I_E = 0,$ $f = 1\text{ MHz}$	—	155	—	pF
Switching Time (Fig.1)	Storage Time	$t_{stg}$	—	9	12	$\mu\text{s}$
	Fall Time	$t_f$		0.3	0.7	

Fig.1 Switching time test circuit

