

TOSHIBA TRANSISTOR SILICON NPN TRIPLE DIFFUSED MESA TYPE

# 2SC5588

HORIZONTAL DEFLECTION OUTPUT FOR SUPER HIGH RESOLUTION DISPLAY, COLOR TV FOR MULTI-MEDIA & HDTV

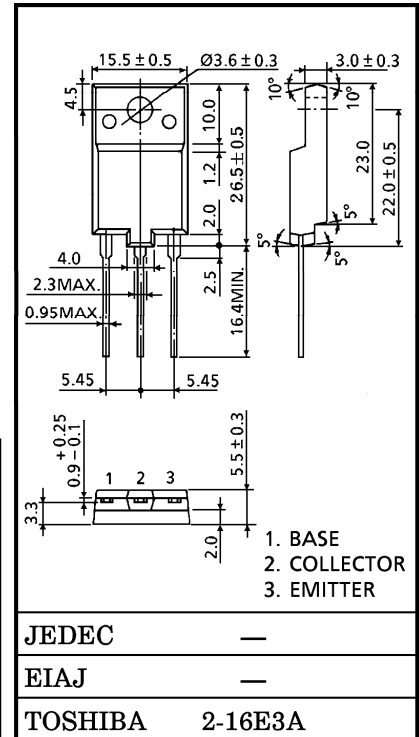
HIGH SPEED SWITCHING APPLICATIONS

- High Voltage :  $V_{CBO} = 1700\text{ V}$
- Low Saturation Voltage :  $V_{CE(sat)} = 3\text{ V (Max.)}$
- High Speed :  $t_f(2) = 0.1\ \mu\text{s (Typ.)}$

**MAXIMUM RATINGS (Ta = 25°C)**

CHARACTERISTIC	SYMBOL	RATING	UNIT
Collector-Base Voltage	$V_{CBO}$	1700	V
Collector-Emitter Voltage	$V_{CEO}$	800	V
Emitter-Base Voltage	$V_{EBO}$	5	V
Collector Current	DC	$I_C$	15
	Pulse	$I_{CP}$	30
Base Current	$I_B$	7.5	A
Collector Power Dissipation (Tc = 25°C)	$P_C$	75	W
Junction Temperature	$T_j$	150	°C
Storage Temperature Range	$T_{stg}$	-55~150	°C

Unit in mm



Weight : 5.5 g (Typ.)

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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	$I_{EBO}$	$V_{EB} = 5\text{ V}, I_C = 0$	—	—	100	$\mu\text{A}$
Collector-Emitter Breakdown Voltage	$V_{(BR)CEO}$	$I_C = 10\text{ mA}, I_B = 0$	800	—	—	V
DC Current Gain	$h_{FE(1)}$	$V_{CE} = 5\text{ V}, I_C = 2\text{ A}$	22	—	45	—
	$h_{FE(2)}$	$V_{CE} = 5\text{ V}, I_C = 9\text{ A}$	6.5	—	12	
	$h_{FE(3)}$	$V_{CE} = 5\text{ V}, I_C = 12\text{ A}$	4.8	—	8.0	
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C = 12\text{ A}, I_B = 3\text{ A}$	—	—	3	V
Base-Emitter Saturation Voltage	$V_{BE(sat)}$	$I_C = 12\text{ A}, I_B = 3\text{ A}$	—	1.0	1.5	V
Transition Frequency	$f_T$	$V_{CE} = 10\text{ V}, I_C = 0.1\text{ A}$	—	2	—	MHz
Collector Output Capacitance	$C_{ob}$	$V_{CB} = 10\text{ V}, I_E = 0, f = 1\text{ MHz}$	—	240	—	pF
Switching Time	Storage Time	$t_{stg(1)}$	—	3.5	4	$\mu\text{s}$
	Fall Time	$t_f(1)$				
	Storage Time	$t_{stg(2)}$	—	1.8	2	$\mu\text{s}$
	Fall Time	$t_f(2)$				

