

TOSHIBA TRANSISTOR SILICON NPN TRIPLE DIFFUSED MESA TYPE

# 2SC5857

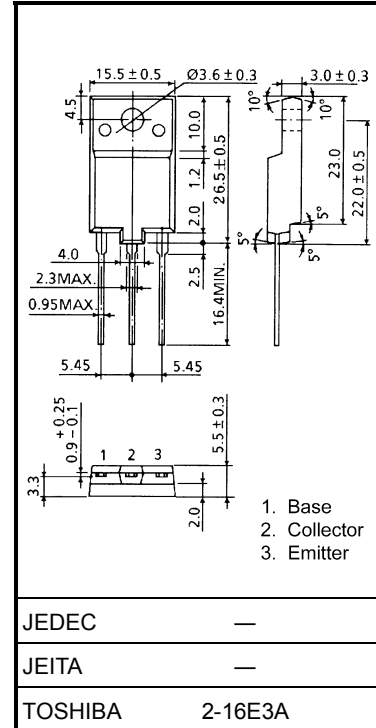
HORIZONTAL DEFLECTION OUTPUT FOR  
HDTV, DIGITAL TV, PROJECTION TV

Unit: mm

- High Voltage :  $V_{CBO} = 1700\text{ V}$
- Low Saturation Voltage :  $V_{CE(sat)} = 1.5\text{ V (max)}$
- High Speed :  $t_f(2) = 0.1\text{ }\mu\text{s (typ.)}$

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

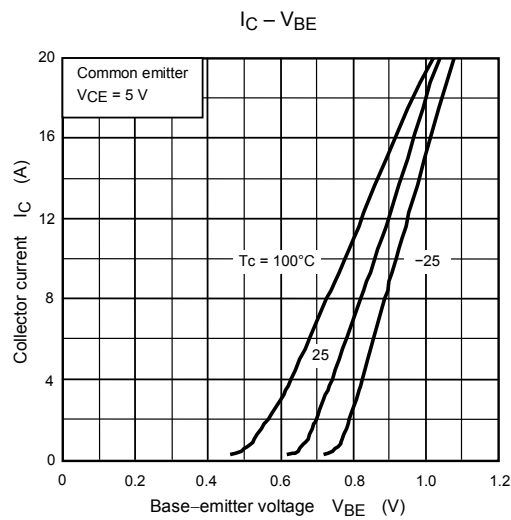
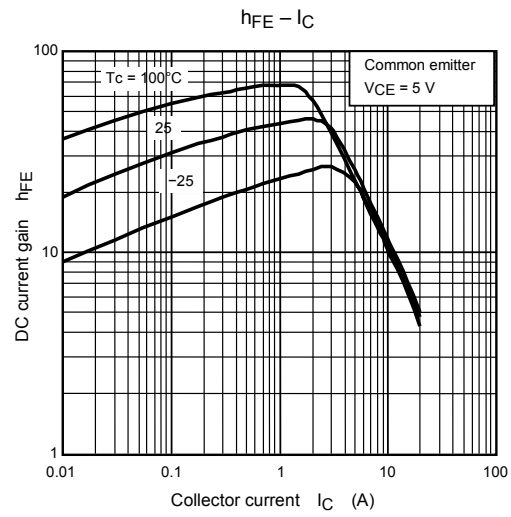
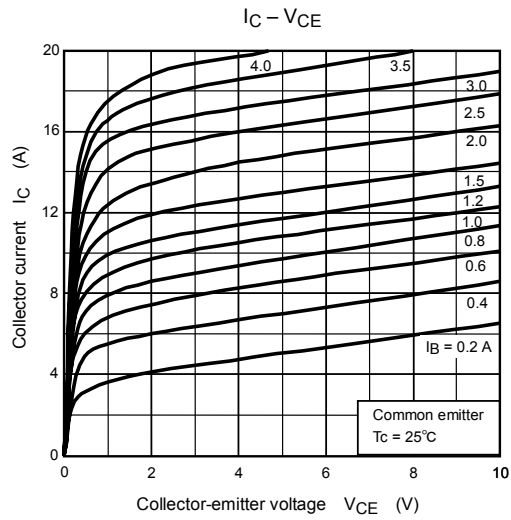
CHARACTERISTIC	SYMBOL	RATING	UNIT
Collector-Base Voltage	$V_{CBO}$	1700	V
Collector-Emitter Voltage	$V_{CEO}$	750	V
Emitter-Base Voltage	$V_{EBO}$	5	V
Collector Current	DC	$I_C$	21
	Pulse	$I_{CP}$	42
Base Current	$I_B$	10.5	A
Collector Power Dissipation	$P_C$	75	W
Junction Temperature	$T_j$	150	$^\circ\text{C}$
Storage Temperature Range	$T_{stg}$	-55~150	$^\circ\text{C}$

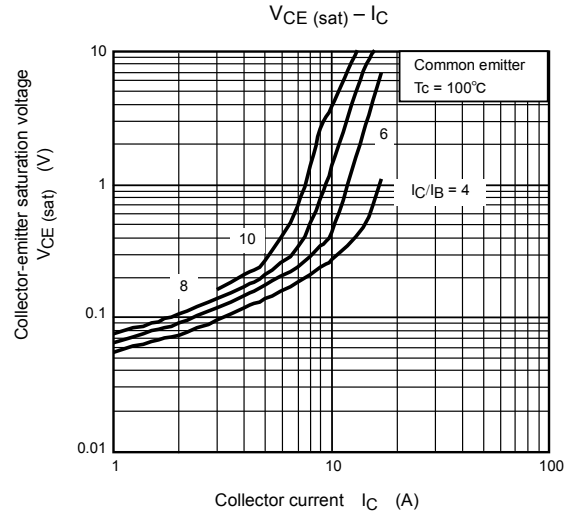
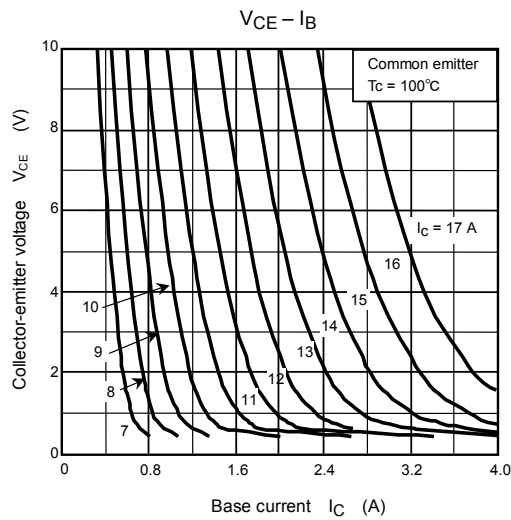
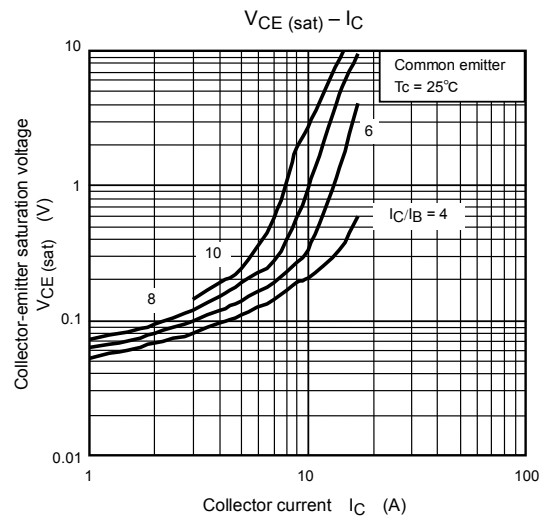
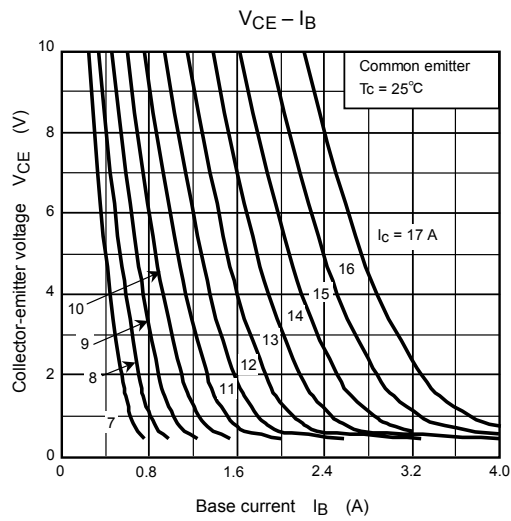
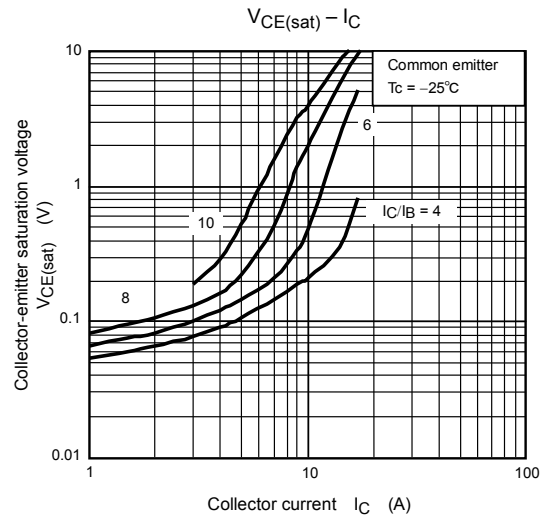
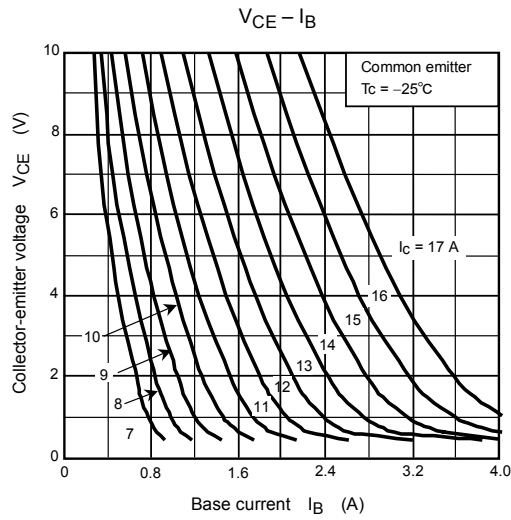


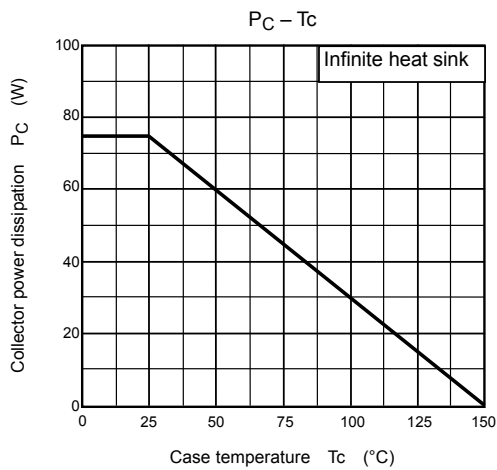
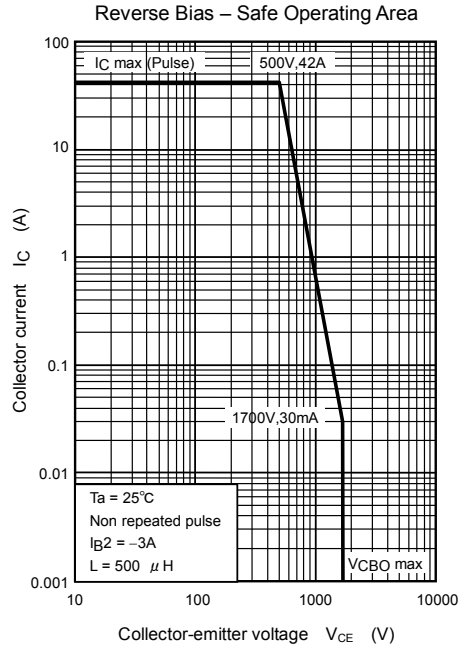
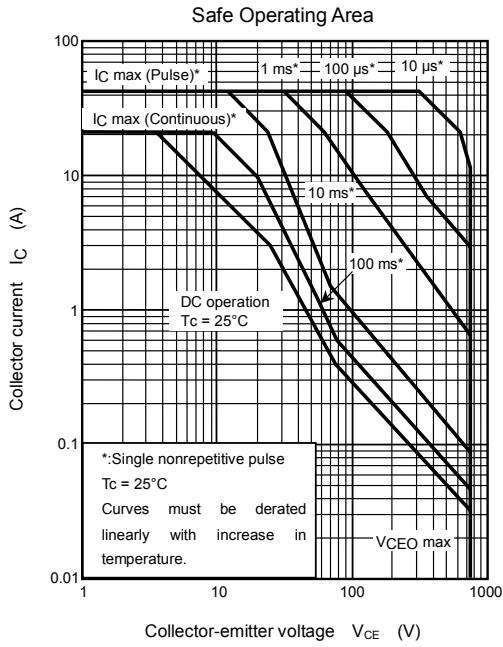
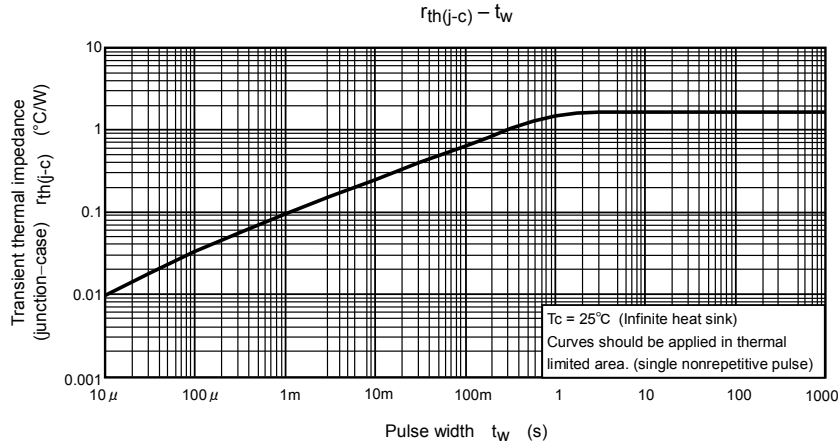
Weight: 5.5 g (typ.)

## ELECTRICAL CHARACTERISTICS ( $T_c = 25^\circ\text{C}$ )

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	$V_{(BR) CEO}$	$I_C = 10\text{ mA}, I_B = 0$	750	—	—	V
DC Current Gain	$h_{FE(1)}$	$V_{CE} = 5\text{ V}, I_C = 2\text{ A}$	30	—	60	—
	$h_{FE(2)}$	$V_{CE} = 5\text{ V}, I_C = 8\text{ A}$	11	—	19	
	$h_{FE(3)}$	$V_{CE} = 5\text{ V}, I_C = 17\text{ A}$	5	—	7.5	
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C = 17\text{ A}, I_B = 4.25\text{ A}$	—	—	1.5	V
Base-Emitter Saturation Voltage	$V_{BE(sat)}$	$I_C = 17\text{ A}, I_B = 4.25\text{ A}$	—	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	$C_{ob}$	$V_{CB} = 10\text{ V}, I_E = 0, f = 1\text{ MHz}$	—	280	—	pF
Switching Time	Storage Time	$t_{stg(1)}$	—	4.5	—	$\mu\text{s}$
	Fall Time	$t_f(1)$	—	0.1	—	
	Storage Time	$t_{stg(2)}$	—	3.5	—	$\mu\text{s}$
	Fall Time	$t_f(2)$	—	0.1	—	







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