

TOSHIBA Transistor Silicon NPN Triple Diffused Mesa Type

# 2SC5717

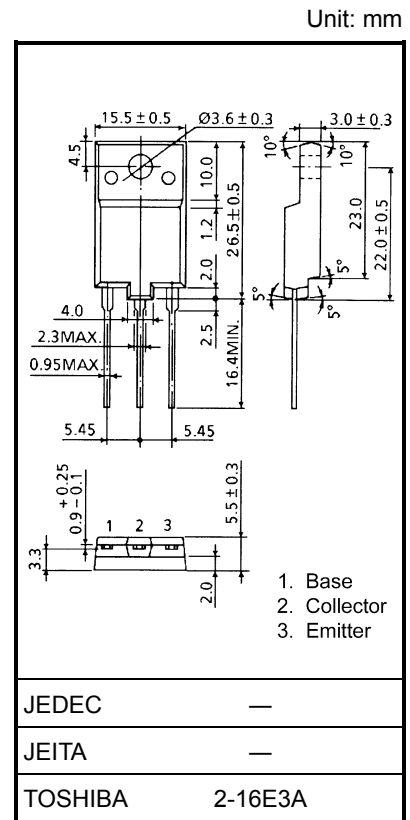
Horizontal Deflection Output for Super High Resolution Display, Color TV, Digital TV.

High Speed Switching Applications.

- High voltage:  $V_{CBO} = 1500\text{ V}$
- Low saturation voltage:  $V_{CE(sat)} = 3\text{ V (max)}$
- High speed:  $t_f(2) = 0.1\text{ }\mu\text{s (typ.)}$

### Maximum Ratings ( $T_c = 25^\circ\text{C}$ )

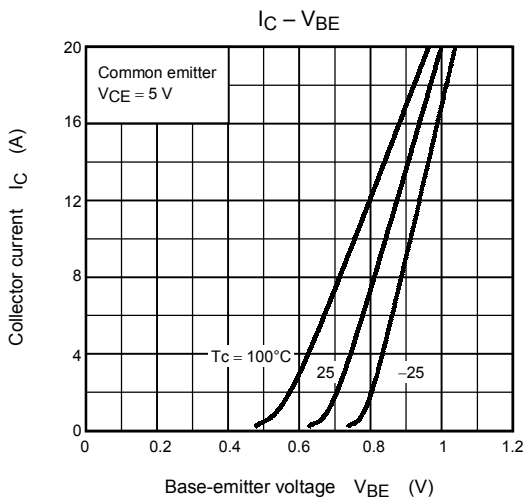
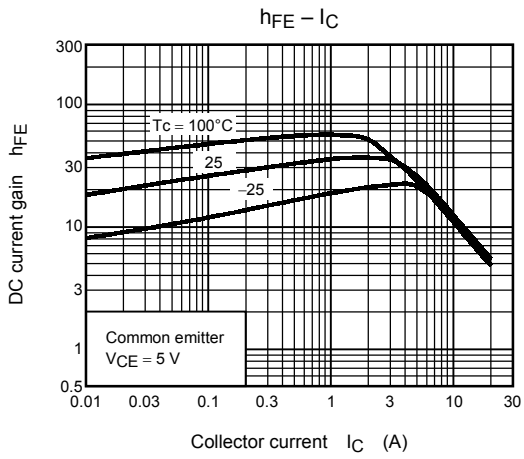
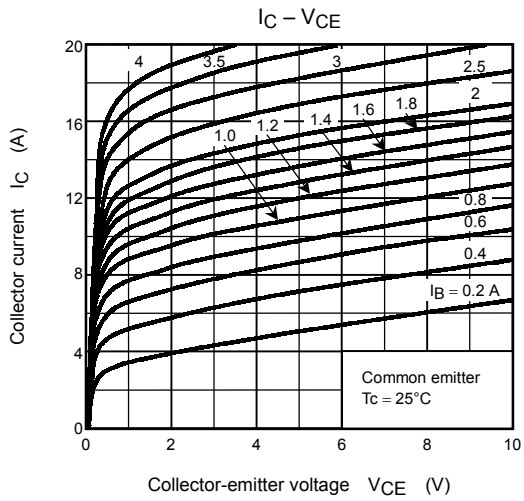
Characteristics		Symbol	Rating	Unit
Collector-base voltage		$V_{CBO}$	1500	V
Collector-emitter voltage		$V_{CEO}$	700	V
Emitter-base voltage		$V_{EBO}$	5	V
Collector current	DC	$I_C$	21	A
	Pulse	$I_{CP}$	42	
Base current		$I_B$	10.5	A
Collector power dissipation		$P_C$	75	W
Junction temperature		$T_j$	150	$^\circ\text{C}$
Storage temperature range		$T_{stg}$	-55~150	$^\circ\text{C}$

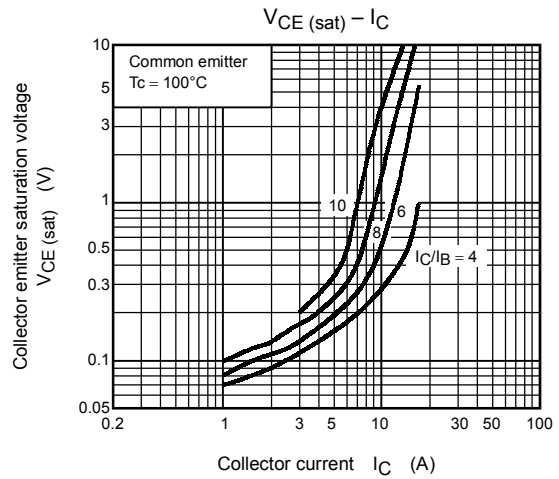
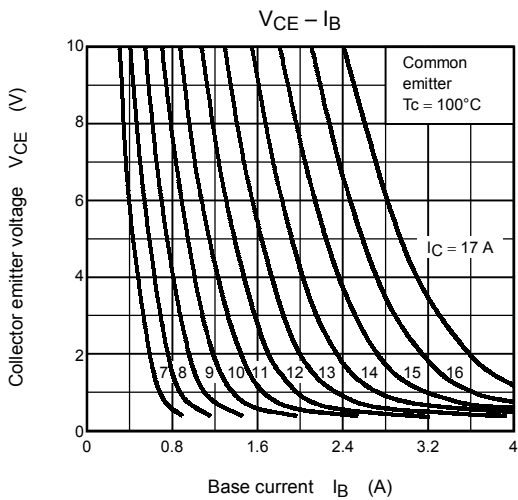
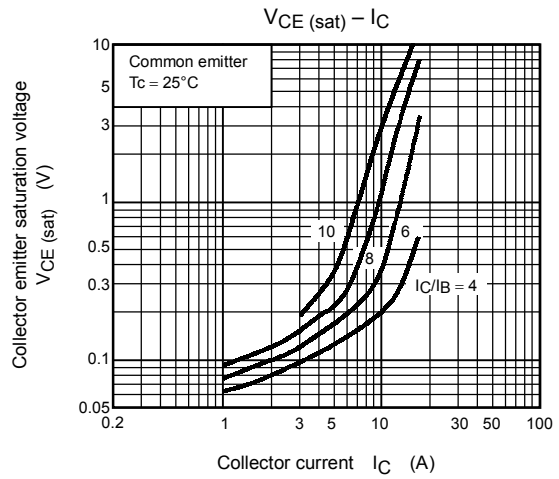
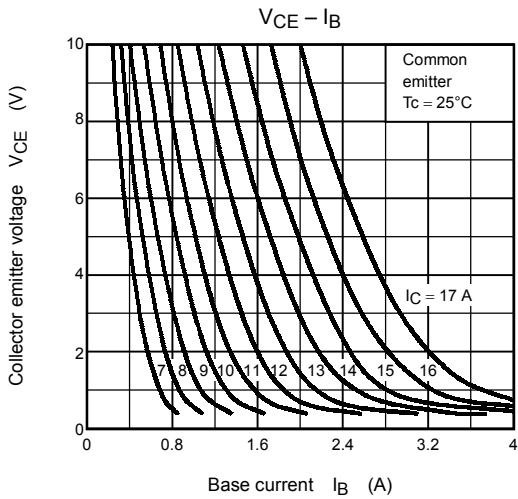
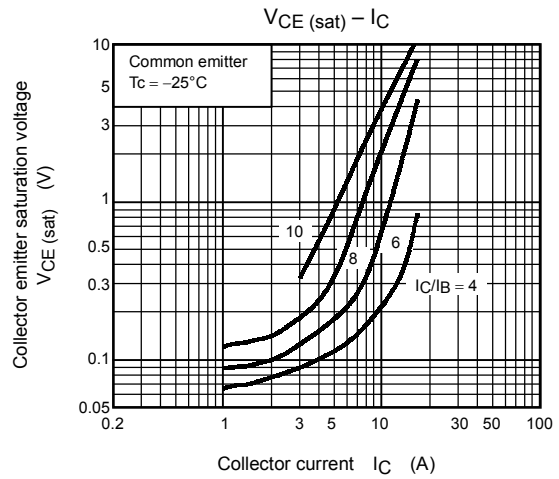
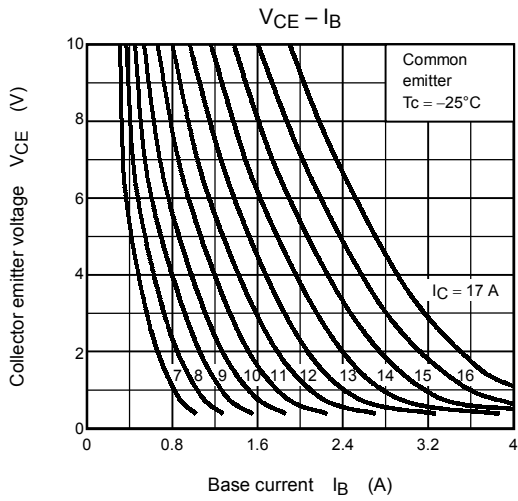


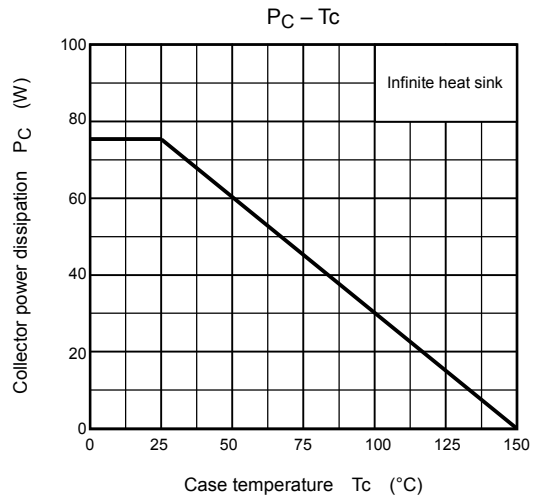
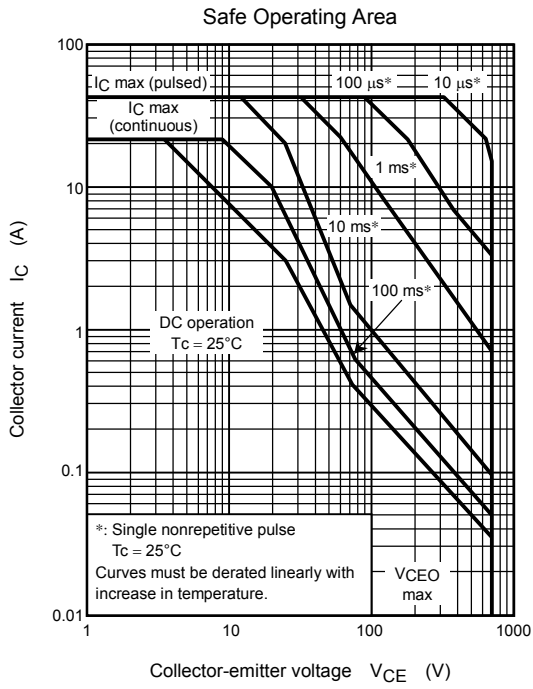
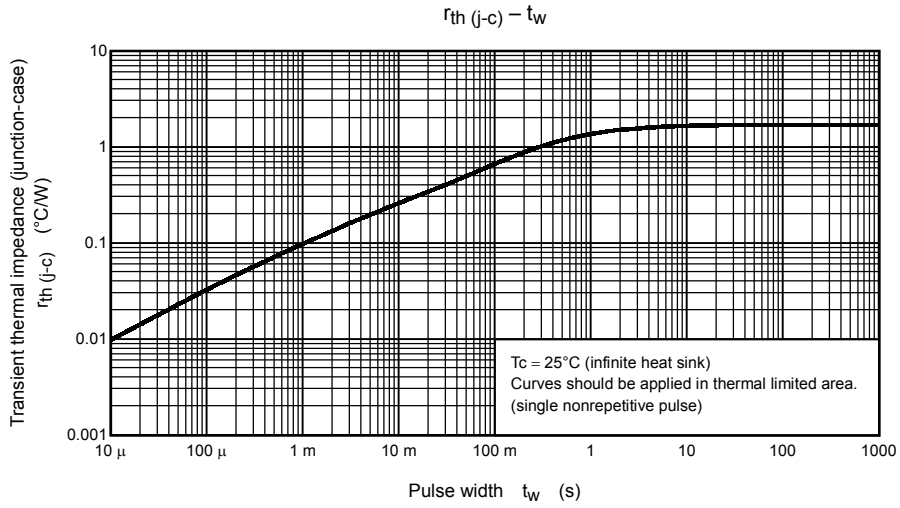
Weight: 5.5 g (typ.)

### Electrical Characteristics ( $T_c = 25^\circ\text{C}$ )

Characteristics		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		$I_{EBO}$	$V_{EB} = 5\text{ V}, I_C = 0$	—	—	10	$\mu\text{A}$
Collector-emitter breakdown voltage		$V_{(BR)CEO}$	$I_E = 10\text{ mA}, I_B = 0$	700			V
DC current gain	$h_{FE(1)}$		$V_{CE} = 5\text{ V}, I_C = 2\text{ A}$	20	—	50	—
	$h_{FE(2)}$		$V_{CE} = 5\text{ V}, I_C = 10\text{ A}$	8	—	17	
	$h_{FE(3)}$		$V_{CE} = 5\text{ V}, I_C = 17\text{ A}$	4.8	—	8.3	
Collector-emitter saturation voltage		$V_{CE(sat)}$	$I_C = 17\text{ A}, I_B = 4.25\text{ A}$	—	—	3	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		$C_{ob}$	$V_{CB} = 10\text{ V}, I_E = 0, f = 1\text{ MHz}$	—	240	—	pF
Switching time	Storage time	$t_{stg(1)}$	$I_{CP} = 10\text{ A}, I_{B1}(\text{end}) = 1.4\text{ A}, f_H = 64\text{ kHz}$	—	2.5	3	$\mu\text{s}$
	Fall time	$t_f(1)$		—	0.15	0.3	
	Storage time	$t_{stg(2)}$	$I_{CP} = 8\text{ A}, I_{B1}(\text{end}) = 1.1\text{ A}, f_H = 100\text{ kHz}$	—	1.6	1.8	
	Fall time	$t_f(2)$		—	0.1	0.15	







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