

TOSHIBA Transistor Silicon NPN Triple-Diffused Mesa Type

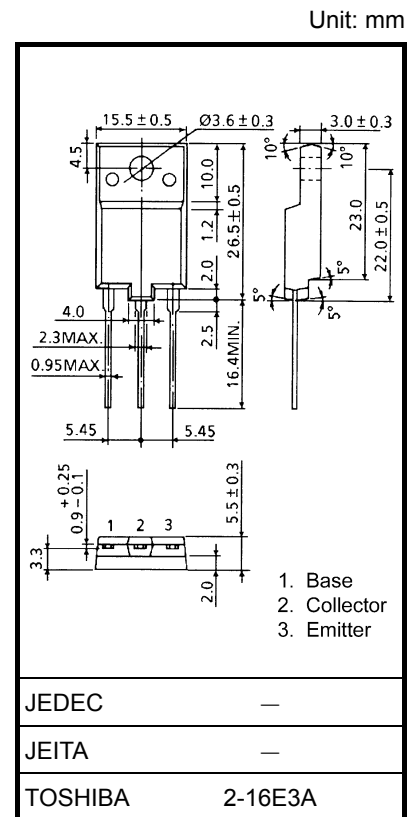
2SC6041

Horizontal Deflection Output for HDTV,
Digital TV, Projection TV.

- High voltage : $V_{CBO} = 1700\text{ V}$
- Low saturation voltage : $V_{CE(sat)} = 1.5\text{ V (max)}$
- High speed : $t_f = 0.15\text{ }\mu\text{s (typ.)}$
- Collector metal (fin) is fully covered with mold resin.

Absolute Maximum Ratings ($T_C = 25^\circ\text{C}$)

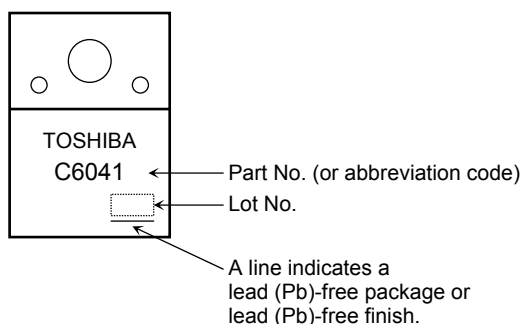
Characteristic		Symbol	Rating	Unit
Collector-base voltage		V_{CBO}	1700	V
Collector-emitter voltage		V_{CEO}	750	V
Emitter-base voltage		V_{EBO}	5	V
Collector current	DC	I_C	15	A
	Pulse	I_{CP}	30	
Base current		I_B	7.5	A
Collector power dissipation		P_C	70	W
Junction temperature		T_j	150	$^\circ\text{C}$
Storage temperature range		T_{stg}	-55 to 150	$^\circ\text{C}$



Weight: 5.5 g (typ.)

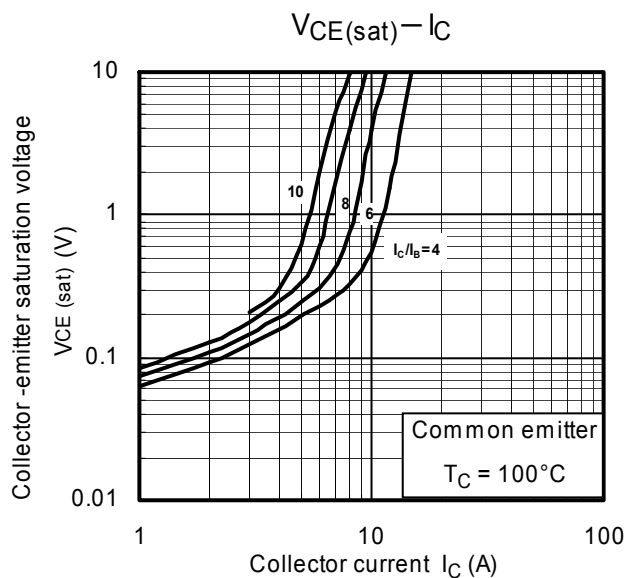
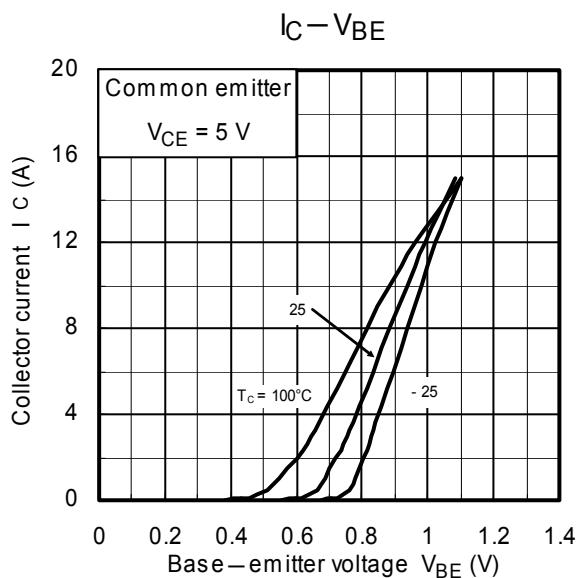
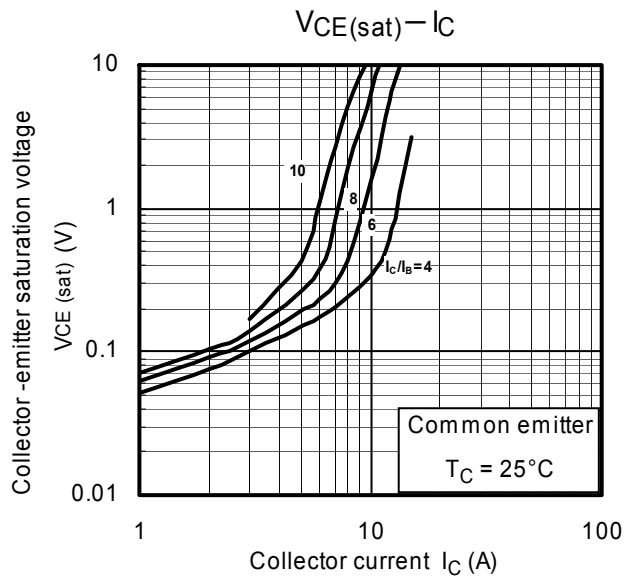
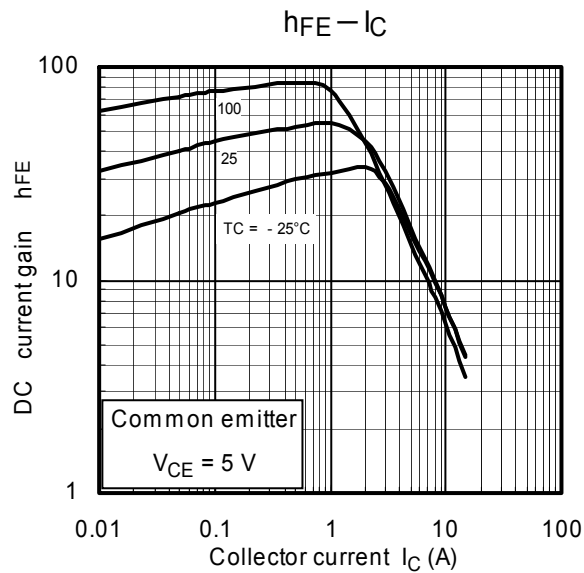
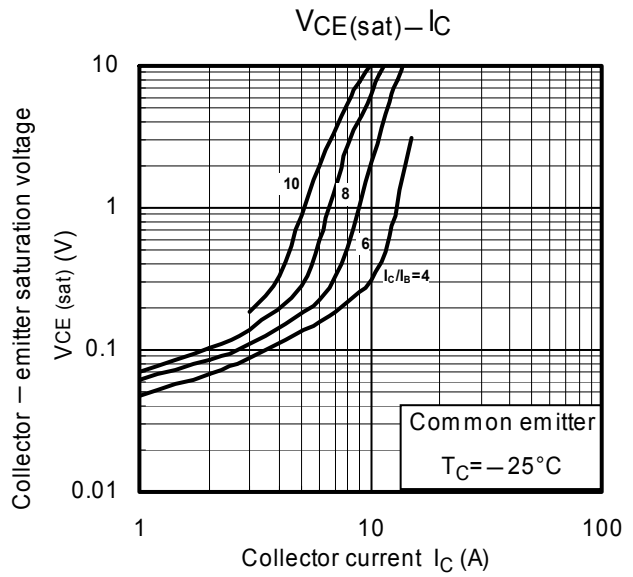
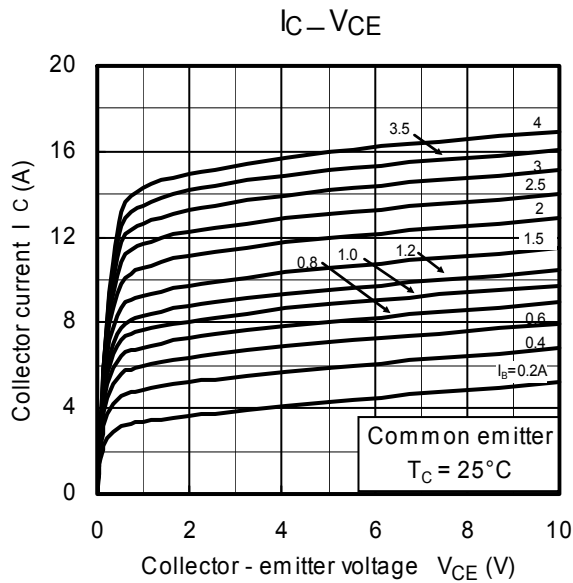
Note: Using continuously under heavy loads (e.g. the application of high temperature/current/voltage and the significant change in temperature, etc.) may cause this product to decrease in the reliability significantly even if the operating conditions (i.e. operating temperature/current/voltage, etc.) are within the absolute maximum ratings.
Please design the appropriate reliability upon reviewing the Toshiba Semiconductor Reliability Handbook ("Handling Precautions"/Derating Concept and Methods) and individual reliability data (i.e. reliability test report and estimated failure rate, etc).

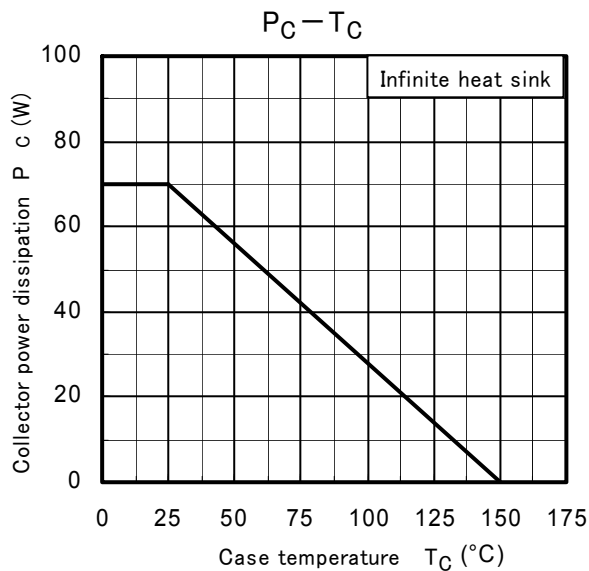
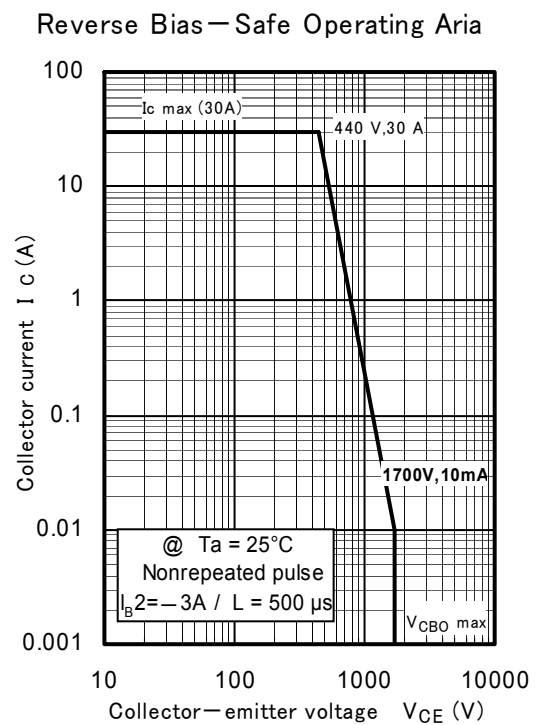
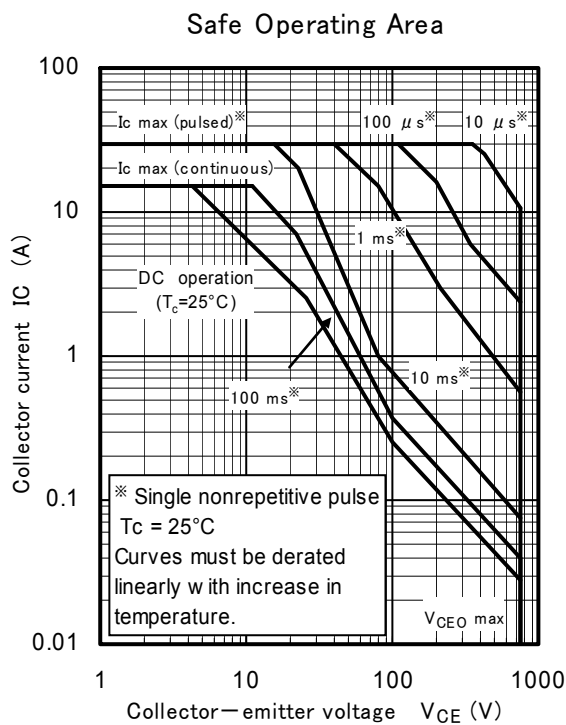
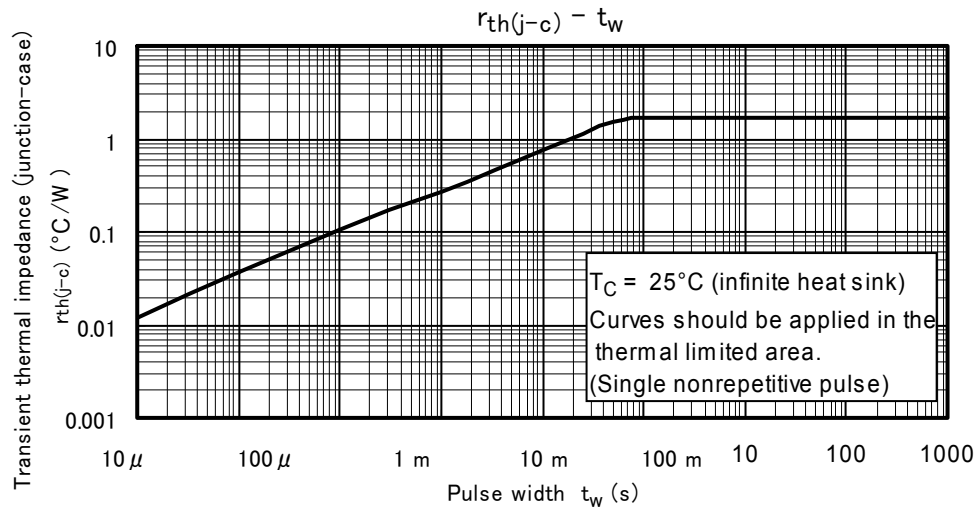
Marking



Electrical Characteristics (Tc = 25°C)

Characteristic		Symbol	Test Condition	Min	Typ.	Max	Unit
Collector cutoff current		I_{CBO}	$V_{CB} = 1700 \text{ V}, I_E = 0$	—	—	1	mA
Emitter cutoff current		I_{EBO}	$V_{EB} = 5 \text{ V}, I_C = 0$	—	—	100	μA
Emitter–base breakdown voltage		$V_{(BR) EBO}$	$I_E = 1 \text{ mA}, I_B = 0$	5	—	—	V
DC current gain		$h_{FE} (1)$	$V_{CE} = 5 \text{ V}, I_C = 2 \text{ A}$	30	—	60	—
		$h_{FE} (2)$	$V_{CE} = 5 \text{ V}, I_C = 8 \text{ A}$	8	—	12	
		$h_{FE} (3)$	$V_{CE} = 5 \text{ V}, I_C = 12 \text{ A}$	5	—	7	
Collector–emitter saturation voltage		$V_{CE (sat)}$	$I_C = 12 \text{ A}, I_B = 3 \text{ A}$	—	—	1.5	V
Base–emitter saturation voltage		$V_{BE (sat)}$	$I_C = 12 \text{ A}, I_B = 3 \text{ A}$	—	—	1.25	V
Transition frequency		f_T	$V_{CE} = 10 \text{ V}, I_C = 0.1 \text{ A}$	—	2	—	MHz
Collector output capacitance		C_{ob}	$V_{CB} = 10 \text{ V}, I_E = 0, f = 1 \text{ MHz}$	—	260	—	pF
Switching time	Storage time	t_{stg}	$I_{CP} = 6 \text{ A}, I_{B1} (\text{end}) = 0.8 \text{ A}$ $f_H = 32 \text{ kHz}$	—	4	—	μs
	Fall time	t_f		—	0.15	—	





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