

TOSHIBA TRANSISTOR SILICON NPN TRIPLE DIFFUSED MESA TYPE

2SC5280

HORIZONTAL DEFLECTION OUTPUT FOR MEDIUM RESOLUTION DISPLAY, COLOR TV

HIGH SPEED SWITCHING APPLICATIONS

- High Voltage : V_{CB0} = 1500 V
- Low Saturation Voltage : V_{CE (sat)} = 5 V (Max.)
- High Speed : t_f = 0.2 μs (Typ.)
- Built-in Damper Type
- Collector Metal (Fin) is Fully Covered with Mold Resin.

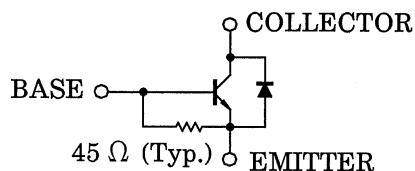
ABSOLUTE MAXIMUM RATINGS (T_c = 25°C)

CHARACTERISTIC		SYMBOL	RATING	UNIT
Collector–Base Voltage		V_{CBO}	1500	V
Collector–Emitter Voltage		V_{CEO}	600	V
Emitter–Base Voltage		V_{EBO}	5	V
Collector Current	DC	I_C	8	A
	Pulse	I_{CP}	16	
Base Current		I_B	4	A
Collector Power Dissipation		P_C	50	W
Junction Temperature		T_j	150	°C
Storage Temperature Range		T_{stg}	–55~150	°C

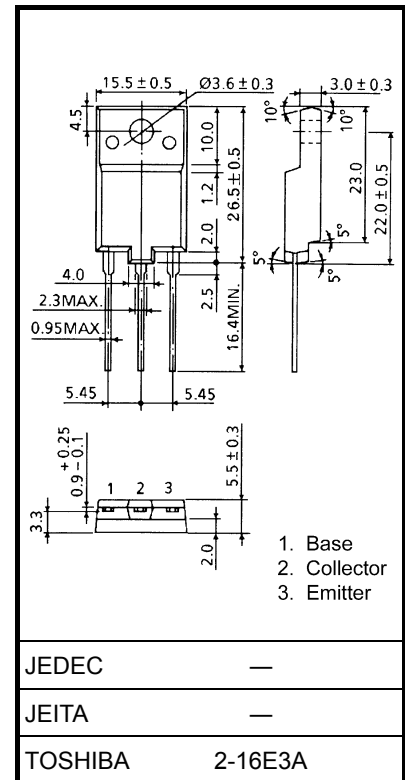
Note: Using continuously under heavy loads (e.g. the application of high temperature/current/voltage and the significant change in temperature, etc.) may cause this product to decrease in the reliability significantly even if the operating conditions (i.e. operating temperature/current/voltage, etc.) 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).

EQUIVALENT CIRCUIT



Unit: mm

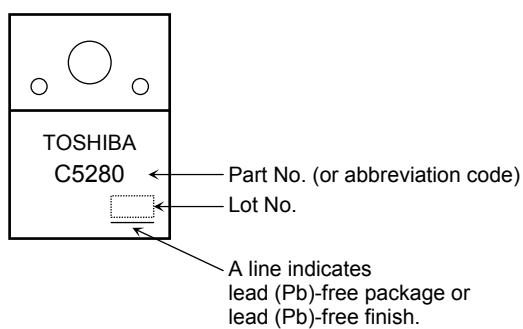


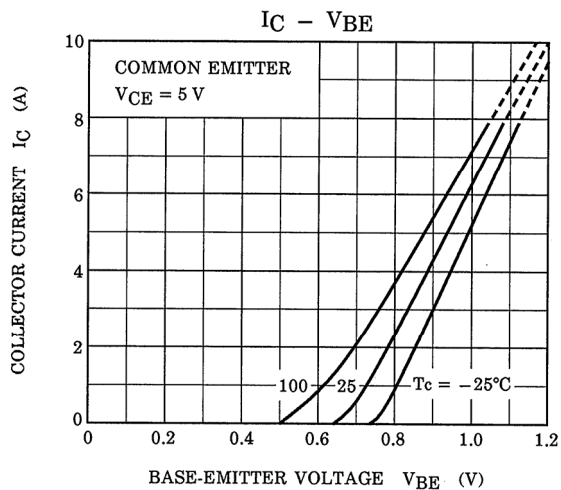
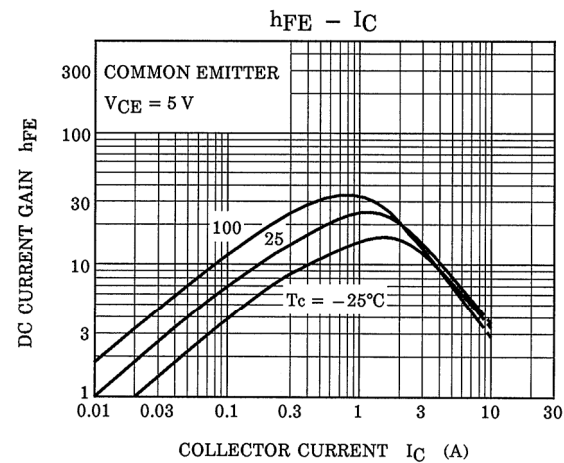
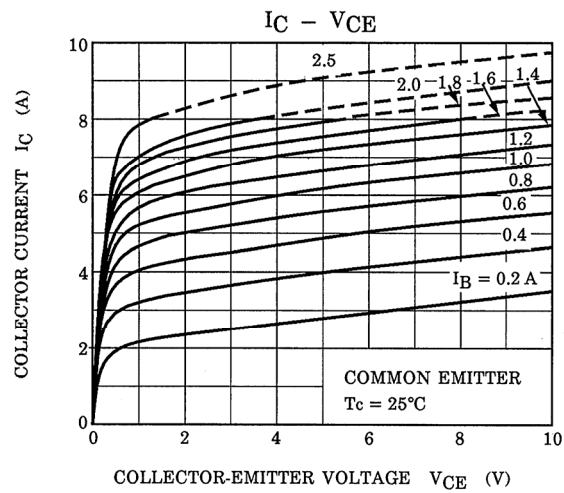
Weight: 5.5 g (typ.)

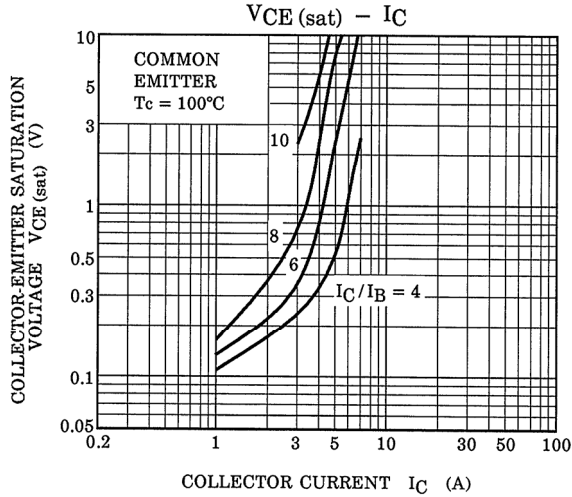
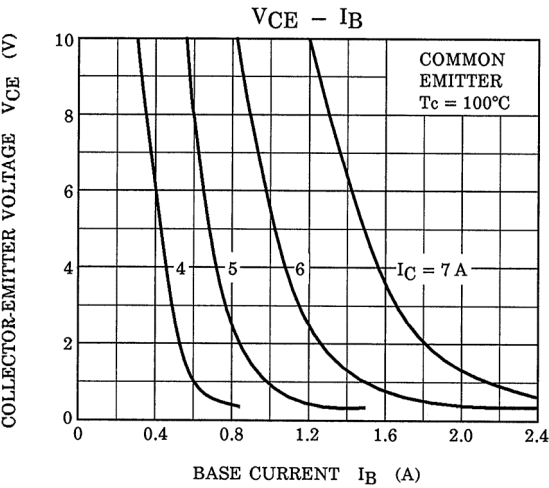
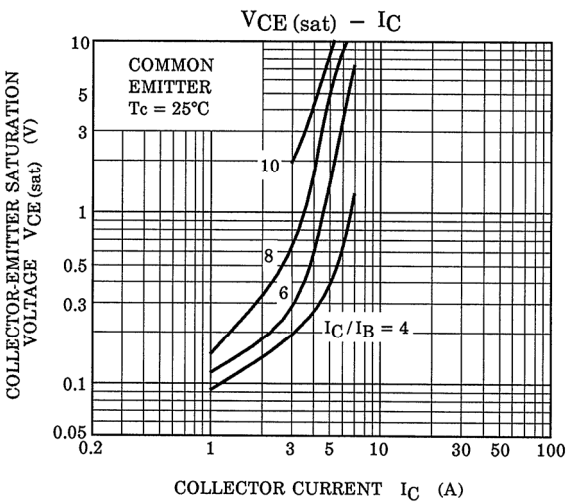
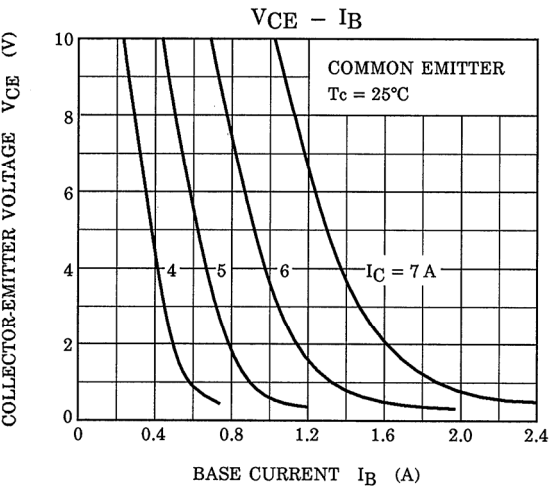
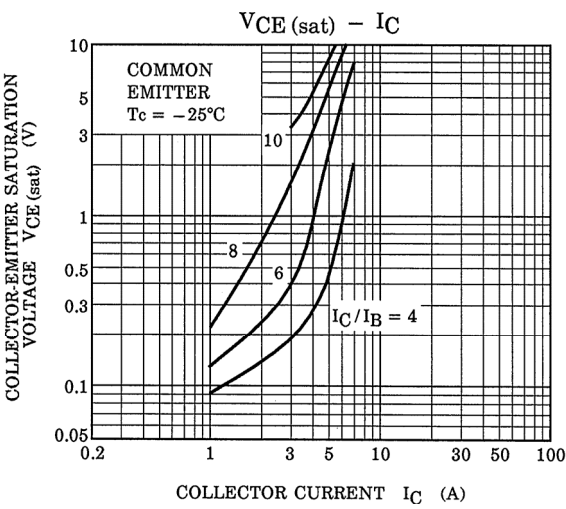
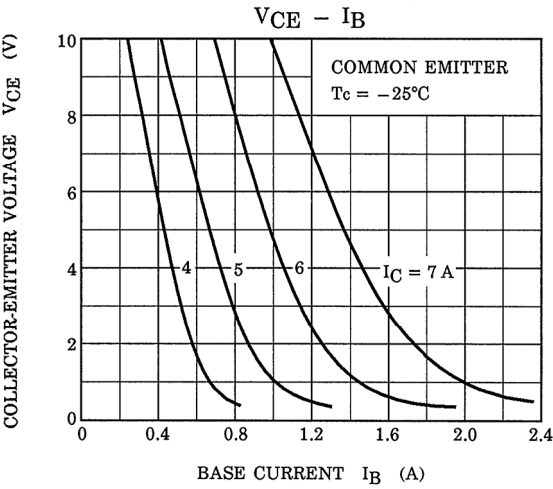
ELECTRICAL CHARACTERISTICS ($T_c = 25^\circ\text{C}$)

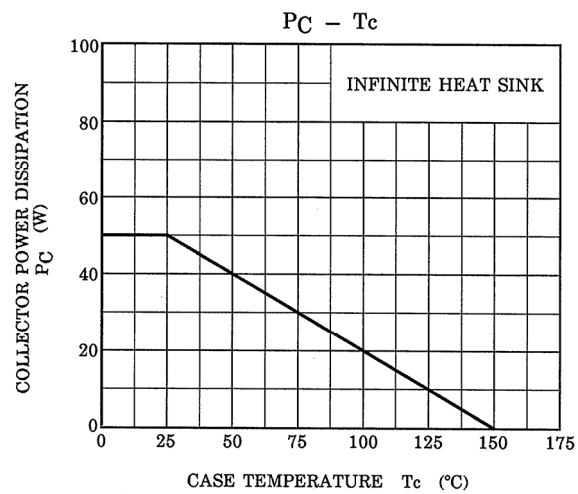
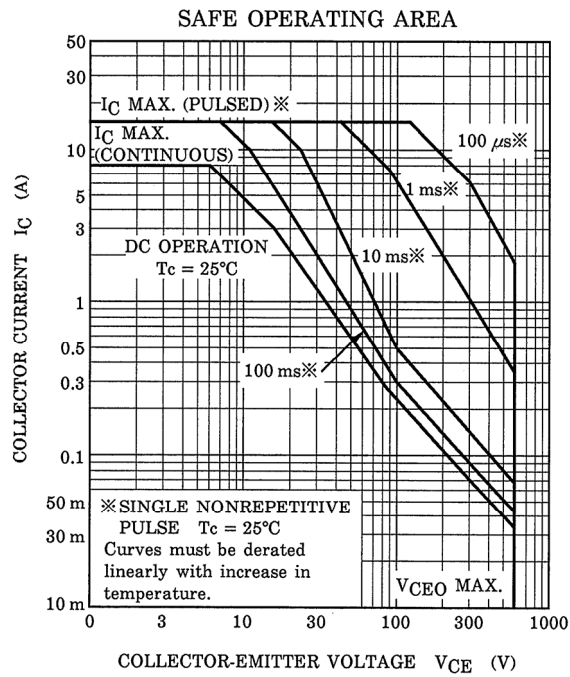
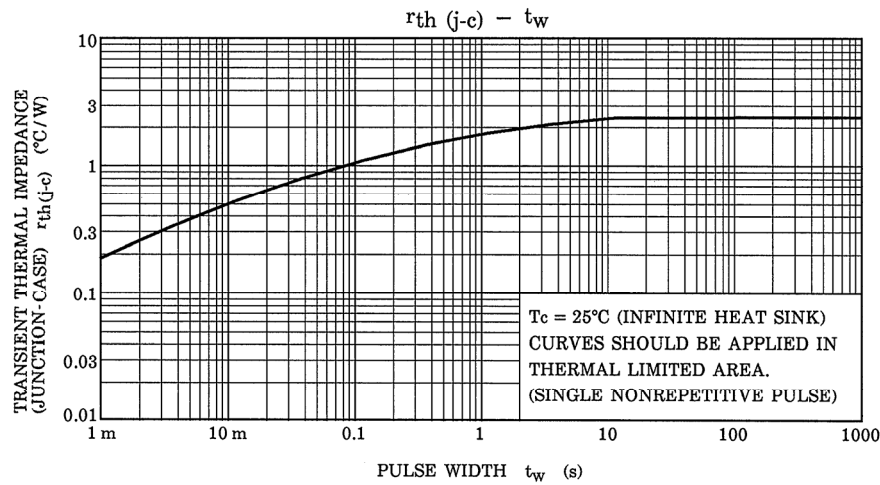
CHARACTERISTIC	SYMBOL	TEST CONDITION	MIN	TYP.	MAX	UNIT
Collector Cut-off Current	I_{CBO}	$V_{CB} = 1500\text{ V}, I_E = 0$	—	—	1	mA
Emitter Cut-off Current	I_{EBO}	$V_{EB} = 5\text{ V}, I_C = 0$	72	—	250	mA
Emitter-Base Breakdown Voltage	$V_{(BR) EBO}$	$I_C = 400\text{ mA}, I_B = 0$	5	—	—	V
DC Current Gain	$h_{FE} (1)$	$V_{CE} = 5\text{ V}, I_C = 1\text{ A}$	10	—	35	—
	$h_{FE} (2)$	$V_{CE} = 5\text{ V}, I_C = 6\text{ A}$	4	—	8.5	
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C = 6\text{ A}, I_B = 1.5\text{ A}$	—	—	5	V
Base-Emitter Saturation Voltage	$V_{BE(sat)}$	$I_C = 6\text{ A}, I_B = 1.5\text{ A}$	—	1.0	1.5	V
Forward Voltage (Damper Diode)	V_F	$I_F = 6\text{ A}$	—	1.4	1.8	V
Transition Frequency	f_T	$V_{CE} = 10\text{ V}, I_E = 0.1\text{ A}$	—	2	—	MHz
Collector Output Capacitance	C_{ob}	$V_{CB} = 10\text{ V}, I_E = 0, f = 1\text{ MHz}$	—	115	—	pF
Switching Time	Storage Time	$I_{CP} = 6\text{ A}, I_{B1}(\text{end}) = 1.2\text{ A}$ $f_H = 31.5\text{ kHz}$	—	4	6	μs
	Fall Time		—	0.2	0.5	

Marking









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20070701-EN

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