

TOSHIBA TRANSISTOR SILICON NPN TRIPLE DIFFUSED MESA TYPE

2SC5856

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 : $V_{CE(\text{sat})} = 3 \text{ V (max)}$
- High Speed : $t_{f(2)} = 0.1 \text{ } \mu\text{s (typ.)}$

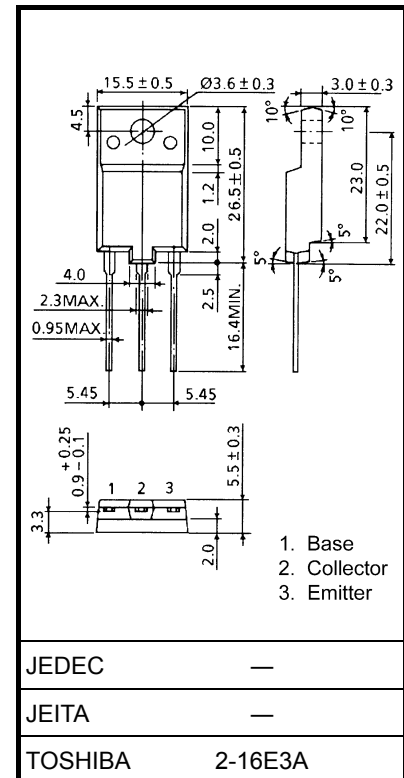
ABSOLUTE MAXIMUM RATINGS (T_c = 25°C)

CHARACTERISTIC		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	14	A
	Pulse	I_{CP}	28	
Base Current		I_B	7	A
Collector Power Dissipation		P_C	55	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).

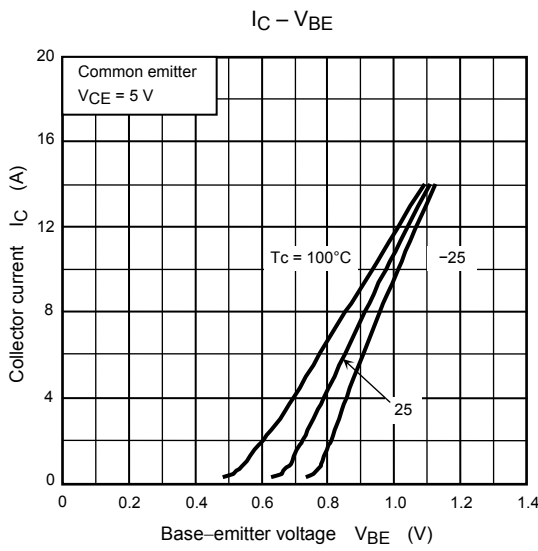
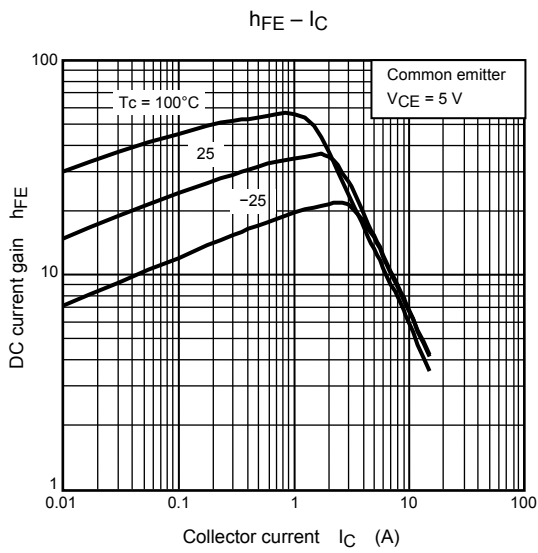
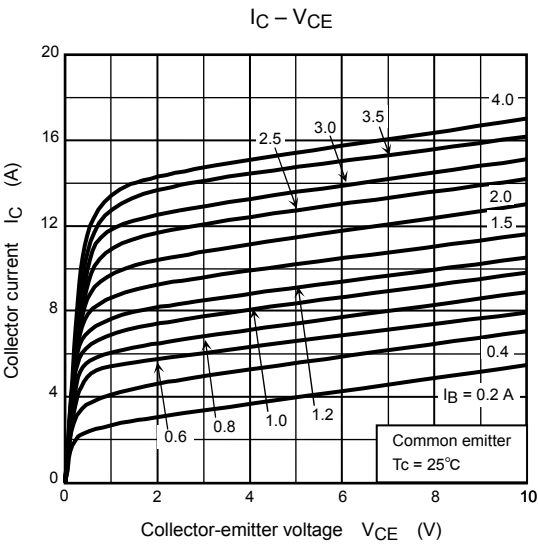
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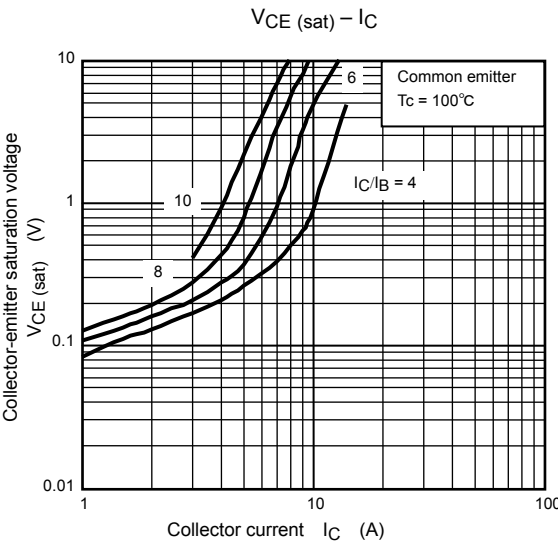
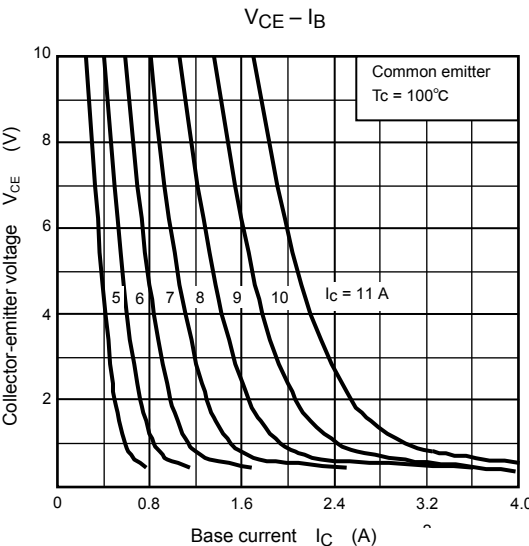
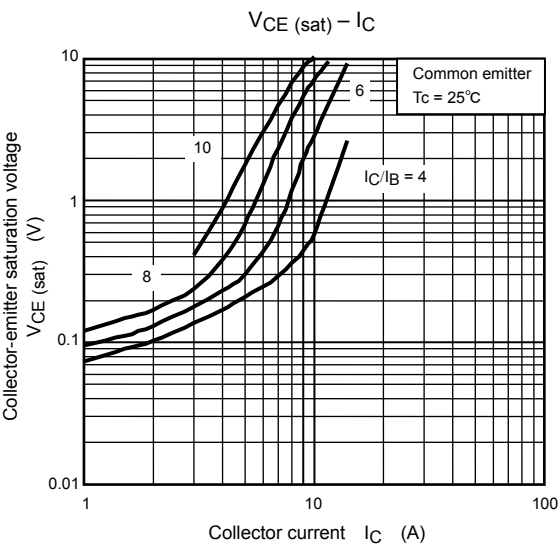
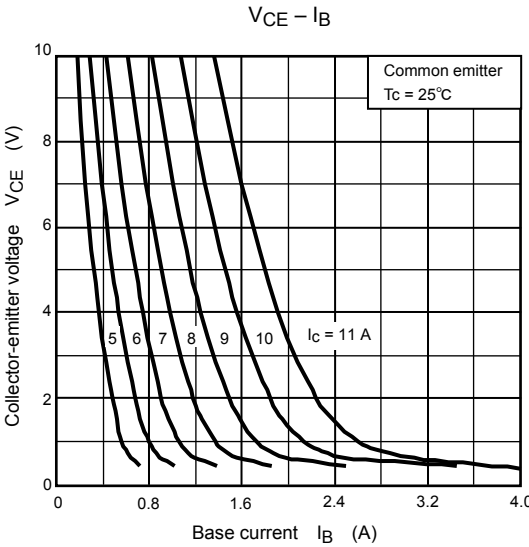
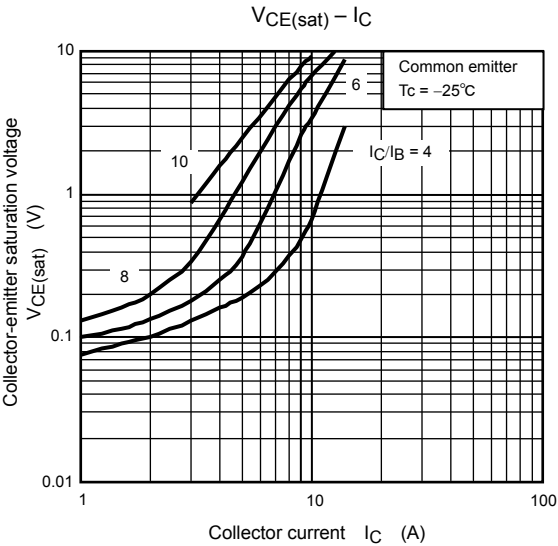
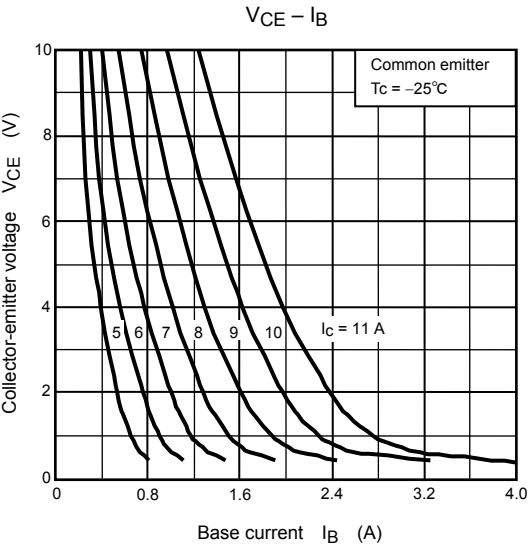


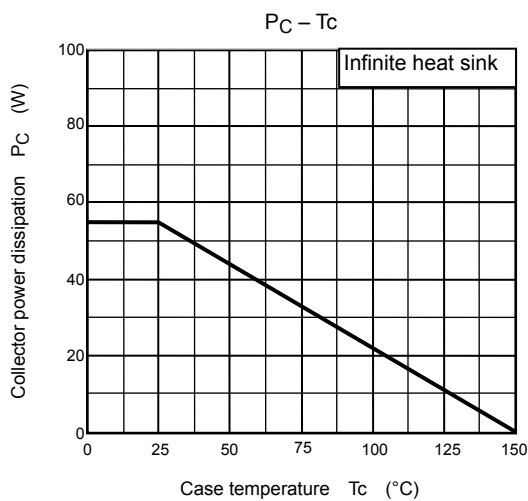
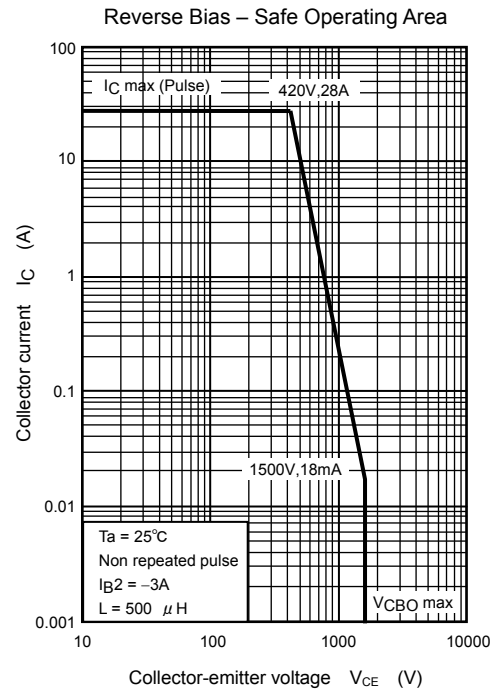
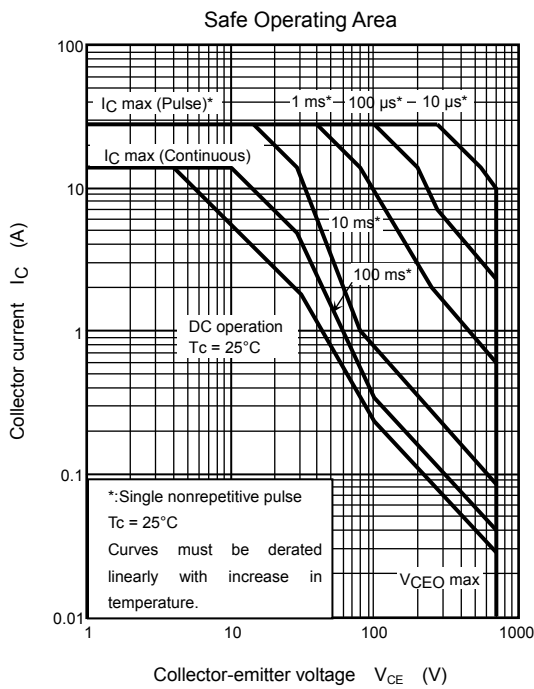
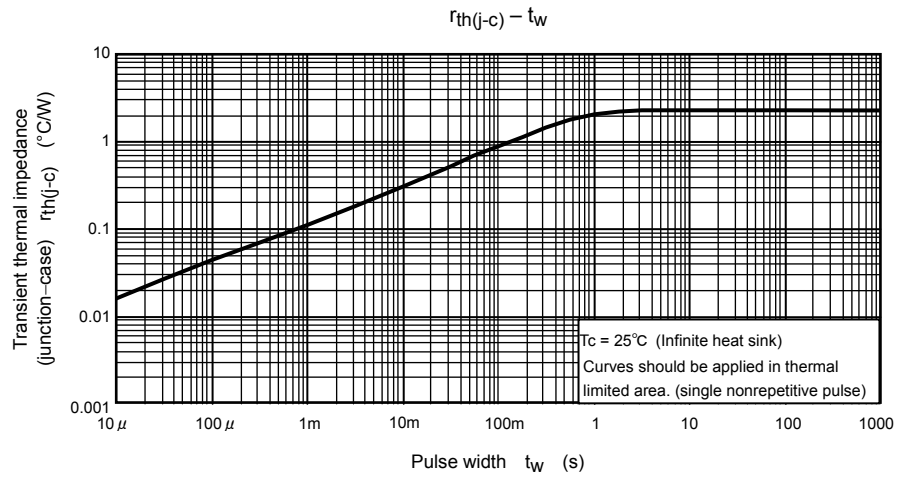
Weight: 5.5 g (typ.)

ELECTRICAL CHARACTERISTICS (T_c = 25°C)

CHARACTERISTIC		SYMBOL	TEST CONDITION	Min	Typ.	Max	UNIT
Collector Cut-off Current		I _{CBO}	V _{CB} = 1500 V, I _E = 0	—	—	1	mA
Emitter Cut-off Current		I _{EBO}	V _{EB} = 5 V, I _C = 0	—	—	100	μA
Collector – Emitter Breakdown Voltage		V _(BR) CEO	I _C = 10 mA, I _B = 0	700	—	—	V
DC Current Gain		h _{FE} (1)	V _{CE} = 5 V, I _C = 2 A	20	—	50	—
		h _{FE} (2)	V _{CE} = 5 V, I _C = 7.5 A	6.5	—	12.5	
		h _{FE} (3)	V _{CE} = 5 V, I _C = 11 A	4.5	—	7.8	
Collector-Emitter Saturation Voltage		V _{CE (sat)}	I _C = 11 A, I _B = 2.75 A	—	—	3	V
Base-Emitter Saturation Voltage		V _{BE (sat)}	I _C = 11 A, I _B = 2.75 A	—	1.0	1.4	V
Transition Frequency		f _T	V _{CE} = 10 V, I _C = 0.1 A	—	2	—	MHz
Collector Output Capacitance		C _{ob}	V _{CB} = 10 V, I _E = 0, f = 1 MHz	—	180	—	pF
Switching Time	Storage Time	t _{stg(1)}	I _{CP} = 7.5 A, I _{B1} (end) = 1.0 A f _H = 32 kHz	—	3.5	—	μs
	Fall Time	t _{f(1)}		—	0.25	—	
	Storage Time	t _{stg(2)}	I _{CP} = 6.5 A, I _{B1} (end) = 0.9 A f _H = 100 kHz	—	1.8	—	μs
	Fall Time	t _{f(2)}		—	0.1	—	







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