

TOSHIBA TRANSISTOR SILICON NPN TRIPLE DIFFUSED MESA TYPE

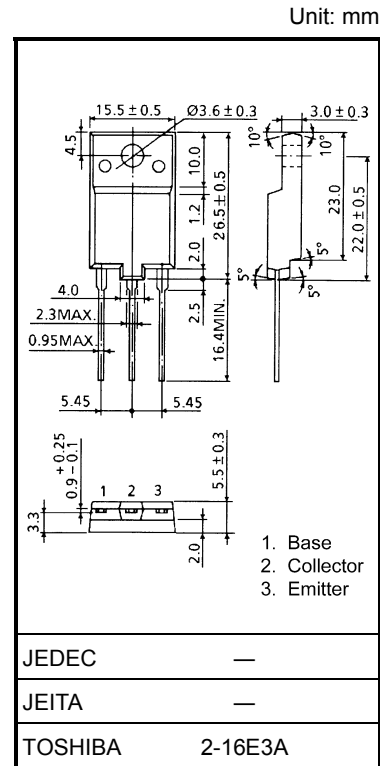
2SC5856

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

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

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
	Pulse	I_{CP}	28
Base Current	I_B	7	A
Collector Power Dissipation	P_C	55	W
Junction Temperature	T_j	150	$^\circ\text{C}$
Storage Temperature Range	T_{stg}	-55~150	$^\circ\text{C}$



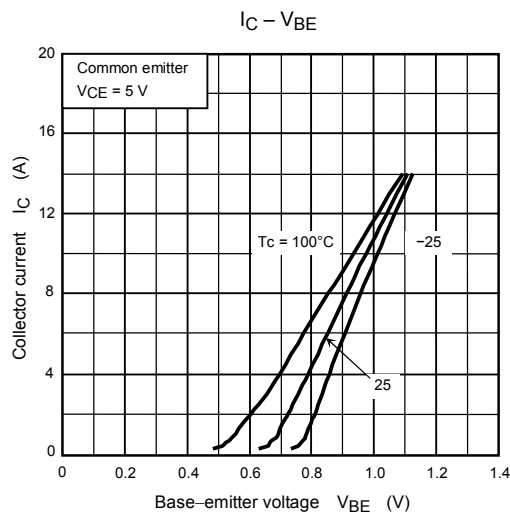
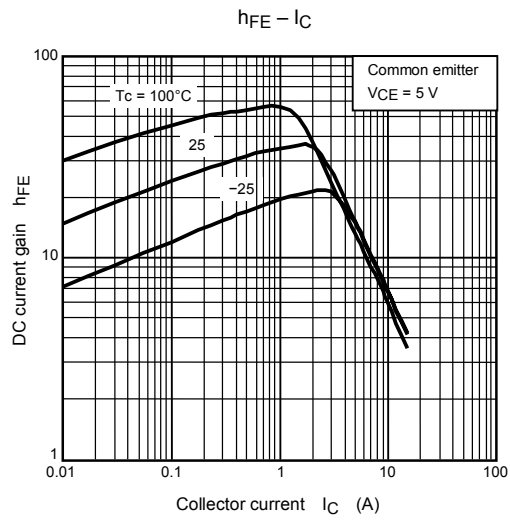
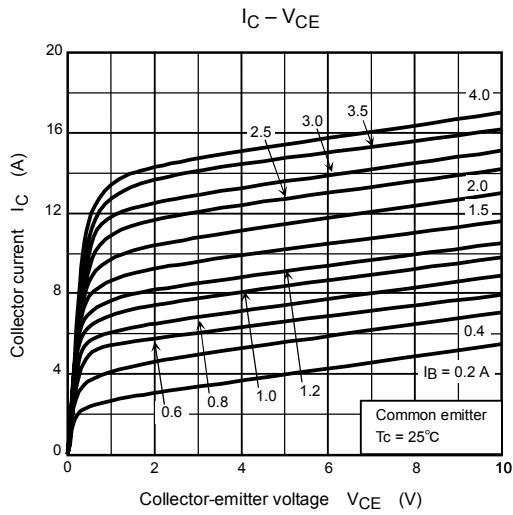
Weight: 5.5 g (typ.)

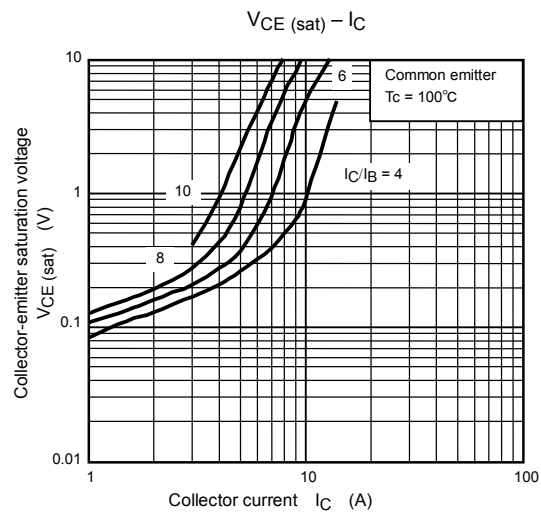
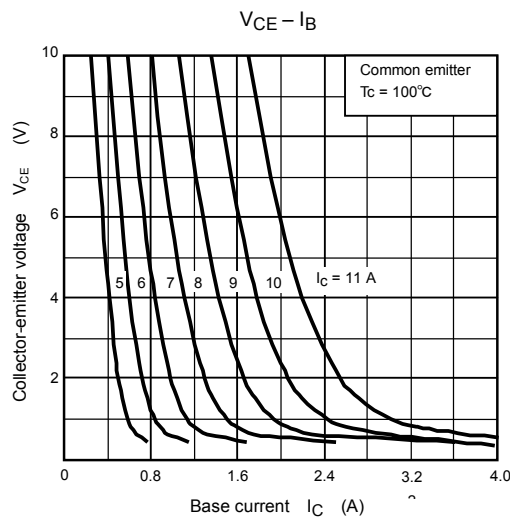
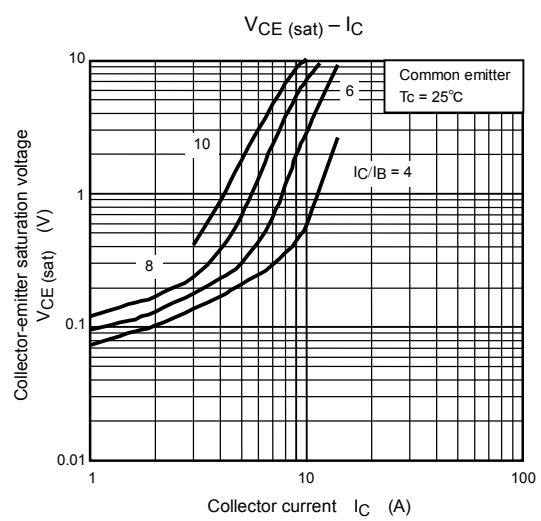
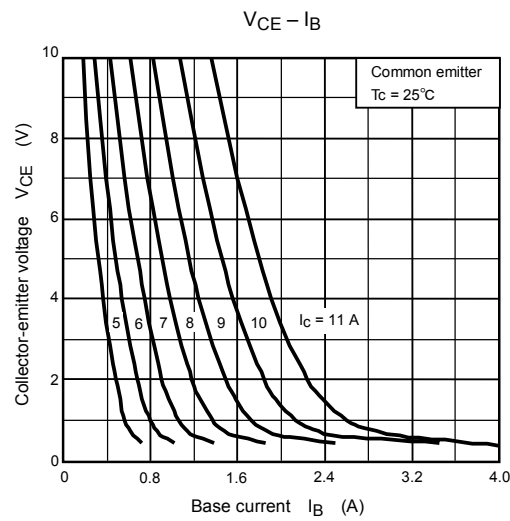
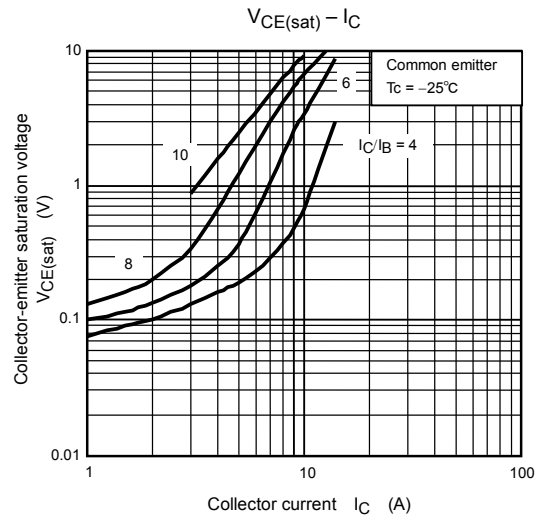
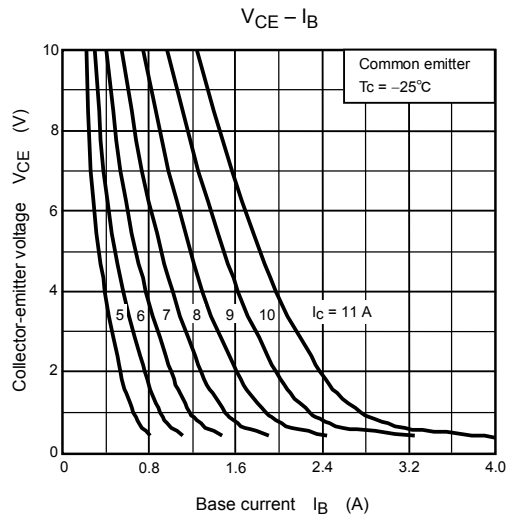
Note: Using continuously under heavy loads (e.g. the application of high temperature/current/voltage and the significant change in temperature, etc.) may cause this product to decrease in the reliability significantly even if the operating conditions (i.e. operating temperature/current/voltage, etc.)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

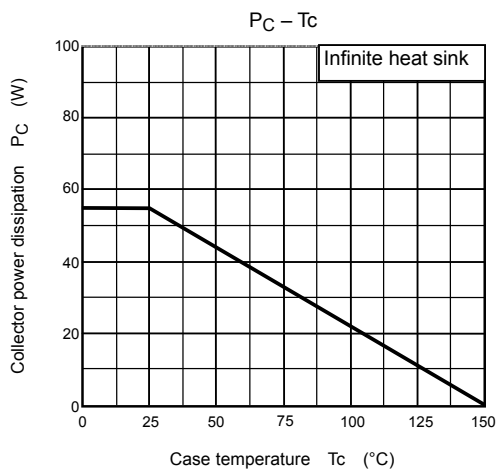
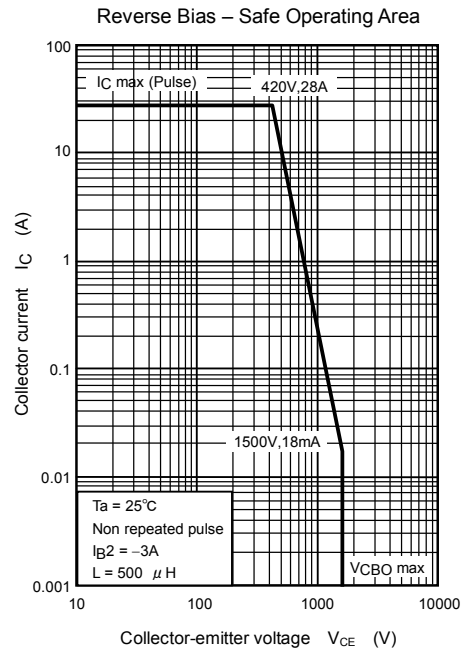
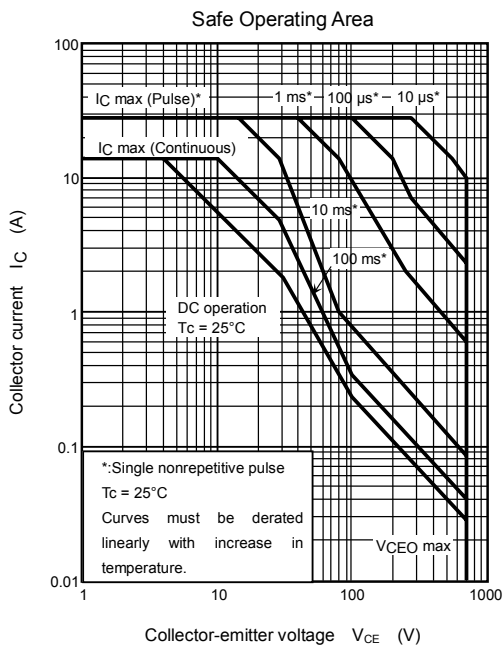
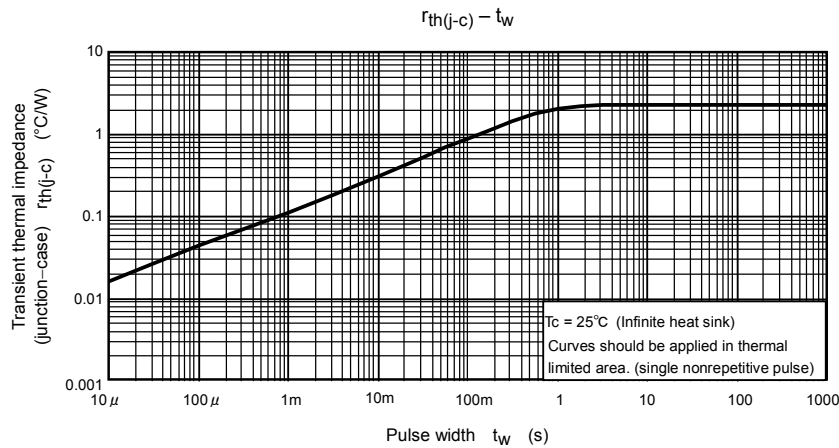
Please design the appropriate reliability upon reviewing the Toshiba Semiconductor Reliability Handbook ("Handling Precautions"/Derating Concept and Methods) and individual reliability data (i.e. reliability test report and estimated failure rate, etc).

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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