

TOSHIBA TRANSISTOR SILICON NPN TRIPLE DIFFUSED MESA TYPE

2SC5446

HORIZONTAL DEFLECTION OUTPUT FOR HIGH RESOLUTION

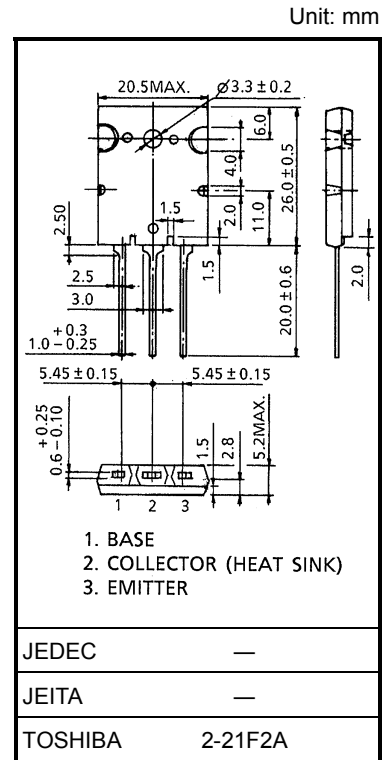
DISPLAY, COLOR TV

HIGH SPEED SWITCHING APPLICATIONS

- High Voltage : $V_{CBO} = 1700\text{ V}$
- Low Saturation Voltage : $V_{CE(sat)} = 3\text{ V (Max.)}$
- High Speed : $t_f(2) = 0.1\text{ }\mu\text{s (Typ.)}$

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}	600	V
Emitter-Base Voltage	V_{EBO}	5	V
Collector Current	DC	I_C	18
	Pulse	I_{CP}	36
Base Current	I_B	9	A
Collector Power Dissipation	P_C	200	W
Junction Temperature	T_j	150	$^\circ\text{C}$
Storage Temperature Range	T_{stg}	-55~150	$^\circ\text{C}$



Weight: 9.75 g (typ.)

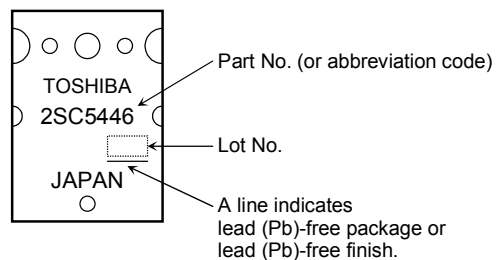
Note: Using continuously under heavy loads (e.g. the application of high temperature/current/voltage and the significant change in temperature, etc.) may cause this product to decrease in the reliability significantly even if the operating conditions (i.e. operating temperature/current/voltage, etc.)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

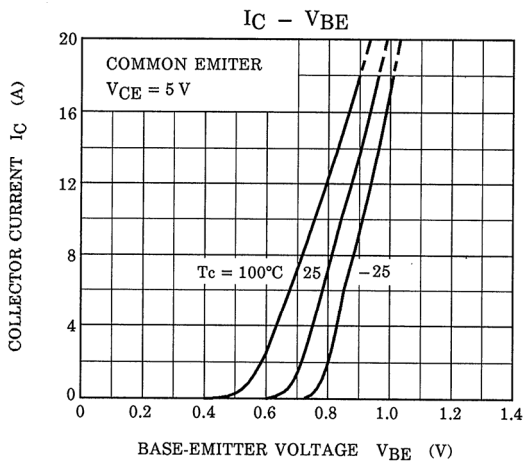
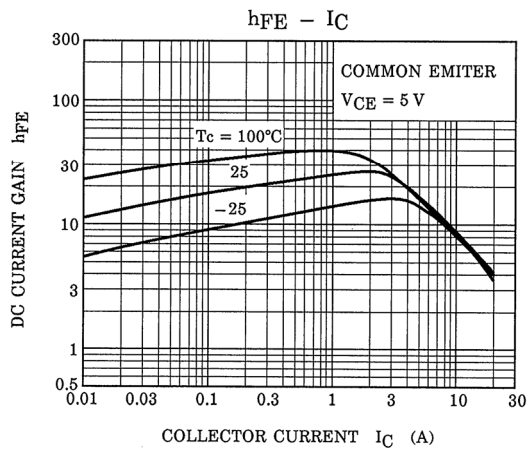
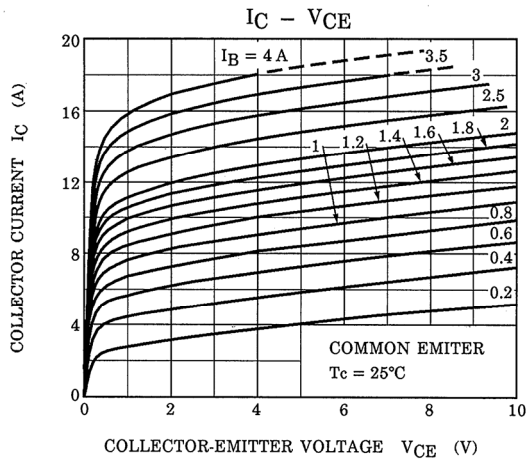
Please design the appropriate reliability upon reviewing the Toshiba Semiconductor Reliability Handbook ("Handling Precautions"/Derating Concept and Methods) and individual reliability data (i.e. reliability test report and estimated failure rate, etc).

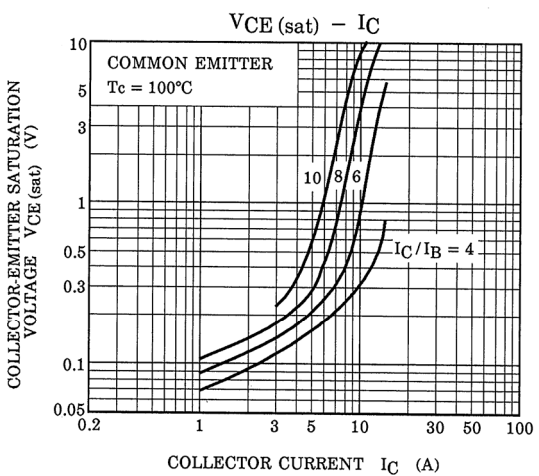
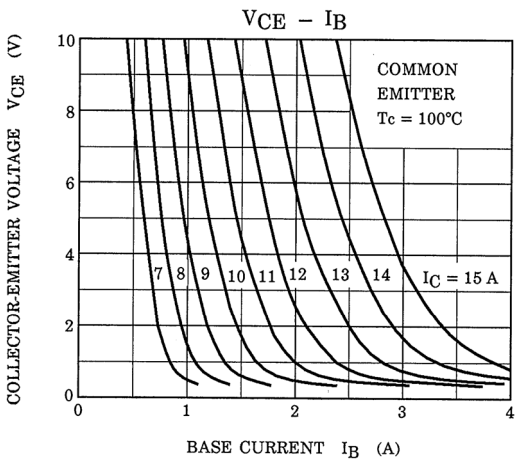
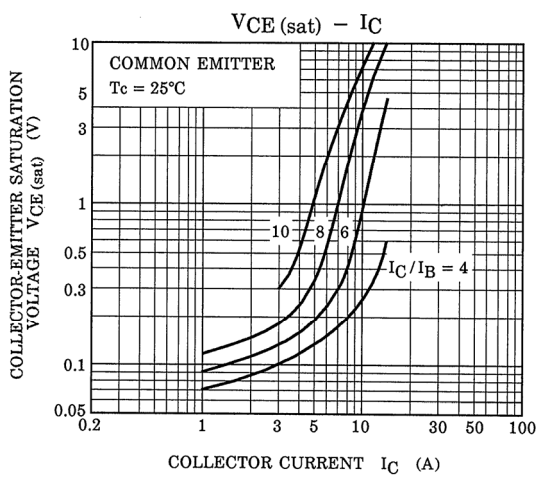
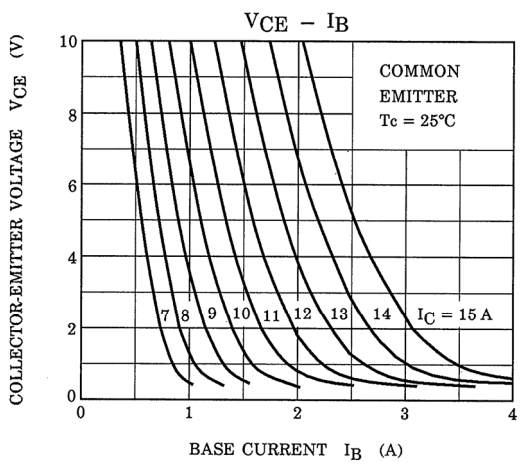
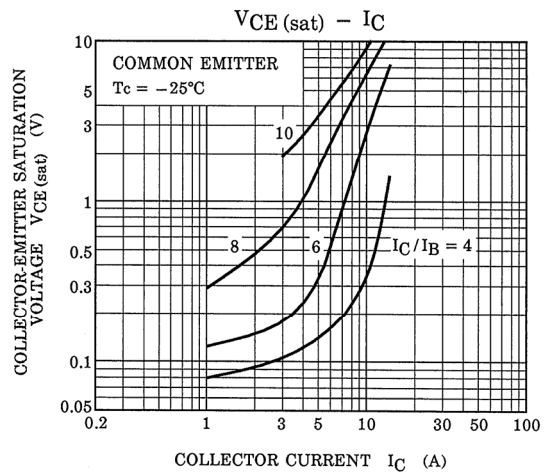
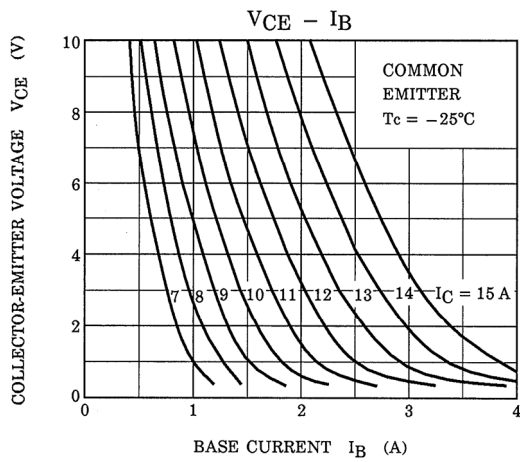
ELECTRICAL CHARACTERISTICS (Tc = 25°C)

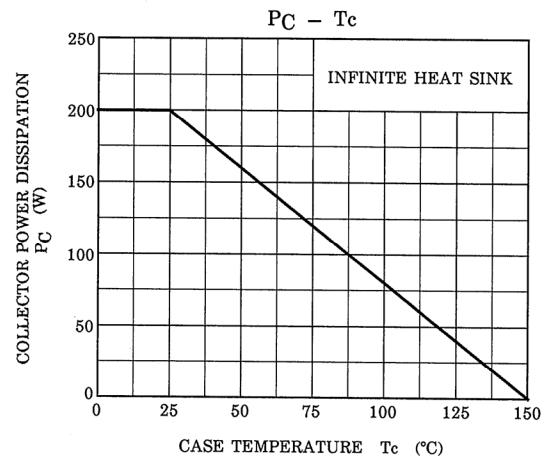
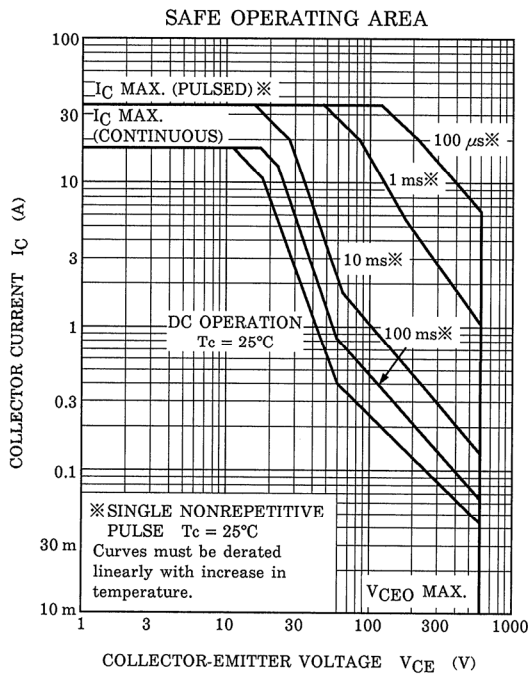
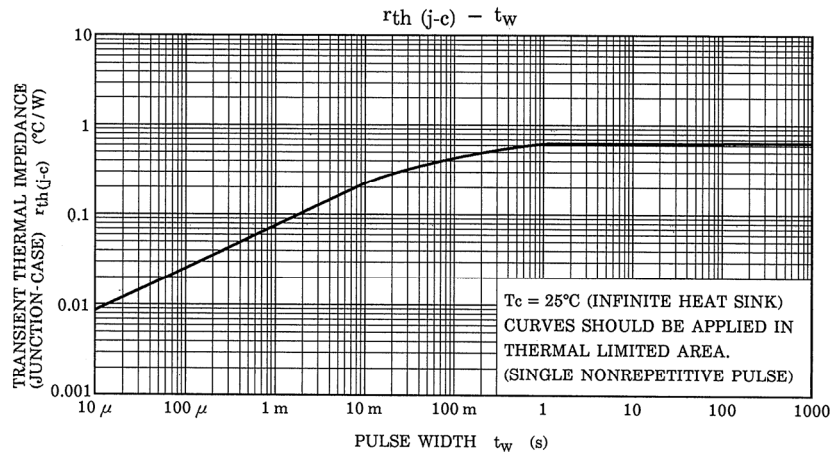
CHARACTERISTIC	SYMBOL	TEST CONDITION	MIN	TYP.	MAX	UNIT	
Collector Cut-off Current	I_{CBO}	$V_{CB} = 1700 \text{ V}, I_E = 0$	—	—	1	mA	
Emitter Cut-off Current	I_{EBO}	$V_{EB} = 5 \text{ V}, I_C = 0$	—	—	10	μA	
Emitter-Base Breakdown Voltage	$V_{(BR) CEO}$	$I_C = 10 \text{ mA}, I_B = 0$	600	—	—	V	
DC Current Gain	$h_{FE} (1)$	$V_{CE} = 5 \text{ V}, I_C = 2 \text{ A}$	10	—	40	—	
	$h_{FE} (2)$	$V_{CE} = 5 \text{ V}, I_C = 9 \text{ A}$	6	—	13		
	$h_{FE} (3)$	$V_{CE} = 5 \text{ V}, I_C = 14 \text{ A}$	4	—	8		
Collector-Emitter Saturation Voltage	$V_{CE (sat)}$	$I_C = 14 \text{ A}, I_B = 3.5 \text{ A}$	—	—	3	V	
Base-Emitter Saturation Voltage	$V_{BE (sat)}$	$I_C = 14 \text{ A}, I_B = 3.5 \text{ A}$	—	1.0	1.5	V	
Transition Frequency	f_T	$V_{CE} = 10 \text{ V}, I_C = 0.1 \text{ A}$	—	1.7	—	MHz	
Collector Output Capacitance	C_{ob}	$V_{CB} = 10 \text{ V}, I_E = 0, f = 1 \text{ MHz}$	—	290	—	pF	
Switching Time	Storage Time	$t_{stg} (1)$	$I_{CP} = 9 \text{ A}, I_{B1} (\text{end}) = 1.5 \text{ A}$ $f_H = 64 \text{ kHz}$	—	2.5	3.5	μs
	Fall Time	$t_f (1)$		—	0.12	0.3	
	Storage Time	$t_{stg} (2)$	$I_{CP} = 7 \text{ A}, I_{B1} (\text{end}) = 1.25 \text{ A}$ $f_H = 100 \text{ kHz}$	—	2.1	2.3	μs
	Fall Time	$t_f (2)$		—	0.10	0.15	

Marking









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