TOSHIBA TRANSISTOR SILICON NPN TRIPLE DIFFUSED MESA TYPE

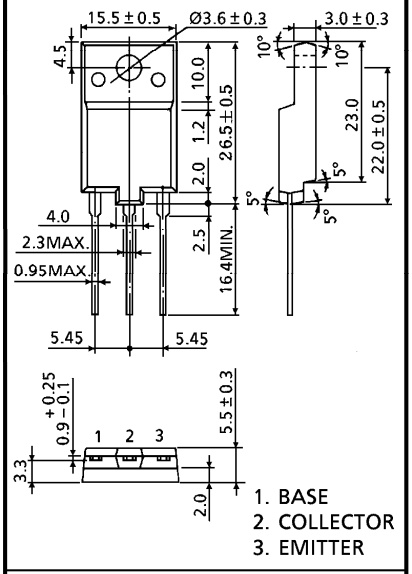
2SC5587

HORIZONTAL DEFLECTION OUTPUT FOR SUPER HIGH RESOLUTION DISPLAY, COLOR TV

HIGH SPEED SWITCHING APPLICATIONS

- High Voltage : V_{CBO} = 1500 V
- Low Saturation Voltage : $V_{CE\ (sat)}$ = 3 V (Max.)
- High Speed : $t_{f\ (2)}$ = 0.1 μs (Typ.)

Unit in mm



JEDEC	—
EIAJ	—
TOSHIBA	2-16E3A

Weight : 5.5 g (Typ.)

MAXIMUM RATINGS (Ta = 25°C)

CHARACTERISTIC		SYMBOL	RATING	UNIT
Collector-Base Voltage		V_{CBO}	1500	V
Collector-Emitter Voltage		V_{CEO}	750	V
Emitter-Base Voltage		V_{EBO}	5	V
Collector Current	DC	I_C	17	A
	Pulse	I_{CP}	34	
Base Current		I_B	8.5	A
Collector Power Dissipation (Tc = 25°C)		P_C	75	W
Junction Temperature		T_j	150	°C
Storage Temperature Range		T_{stg}	−55~150	°C

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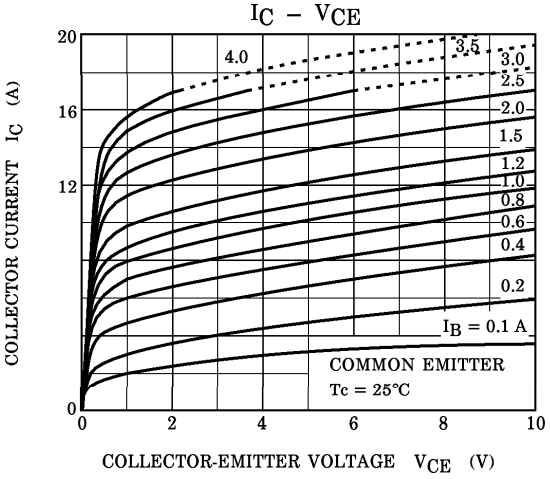
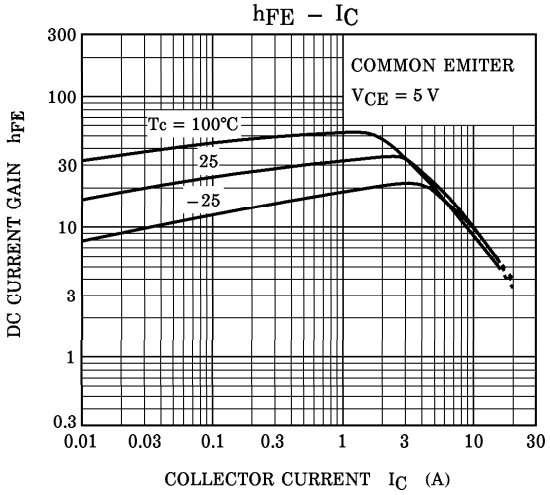
ELECTRICAL CHARACTERISTICS (Ta = 25°C)

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	750	—	—	V
DC Current Gain		$h_{FE\,(1)}$	V_{CE} = 5 V, I_C = 2 A	22	—	48	—
		$h_{FE\,(2)}$	V_{CE} = 5 V, I_C = 7 A	9	—	18	
		$h_{FE\,(3)}$	V_{CE} = 5 V, I_C = 14 A	5	—	8	
Collector-Emitter Saturation Voltage		$V_{CE\,(sat)}$	I_C = 14 A, I_B = 3.5 A	—	—	3	V
Base-Emitter Saturation Voltage		$V_{BE\,(sat)}$	I_C = 14 A, I_B = 3.5 A	—	1.0	1.5	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	—	240	—	pF
Switching Time	Storage Time	$t_{stg\,(1)}$	I_{CP} = 9 A, I_{B1} (end) = 1.3 A	—	2.7	3	μs
	Fall Time	$t_{f\,(1)}$	f_H = 64 kHz	—	0.2	0.3	
	Storage Time	$t_{stg\,(2)}$	I_{CP} = 7.5 A, I_{B1} (end) = 1.1 A	—	1.8	2	μs
	Fall Time	$t_{f\,(2)}$	f_H = 100 kHz	—	0.1	0.15	

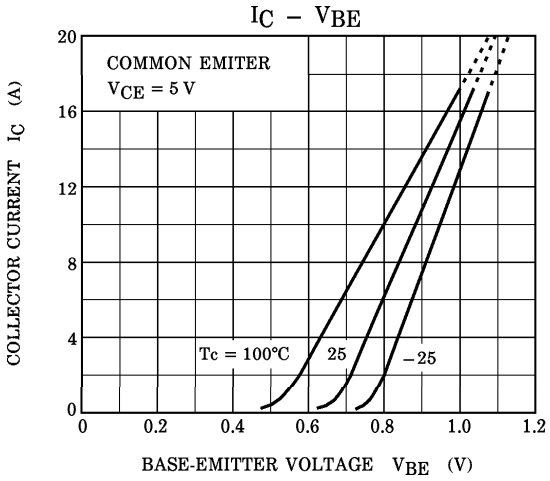
I_C – V_{CE}



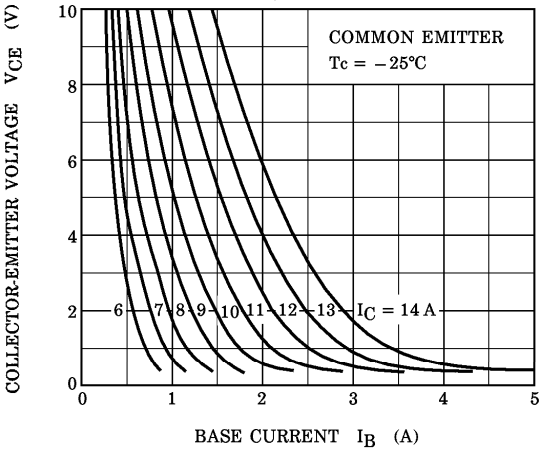
h_{FE} – I_C



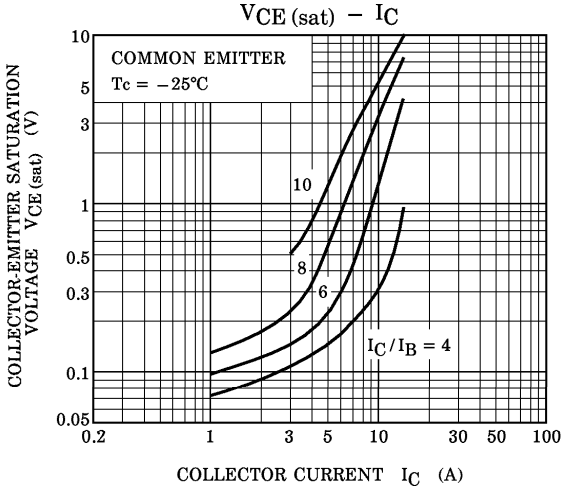
I_C – V_{BE}



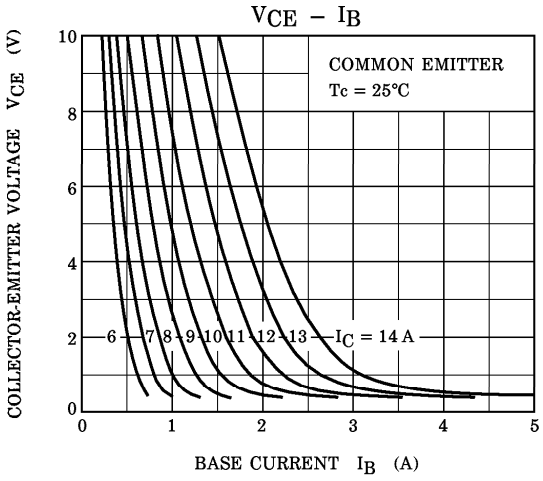
V_{CE} – I_B



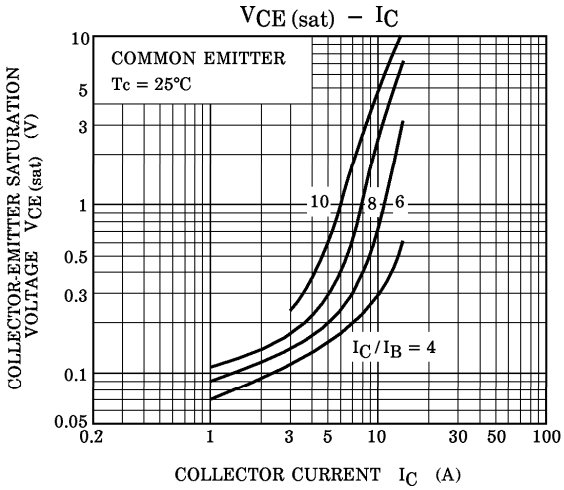
$V_{CE\,(sat)}$ – I_C



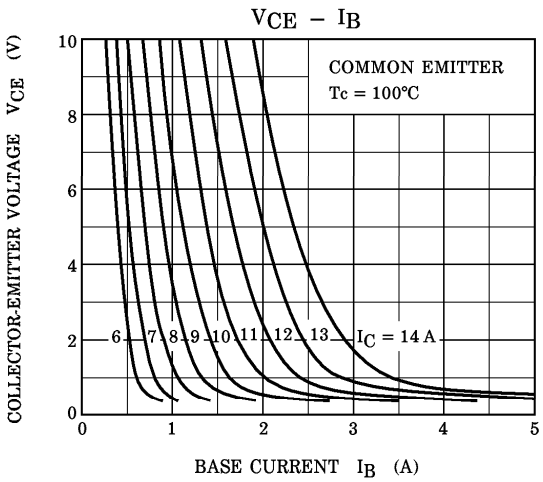
V_{CE} – I_B



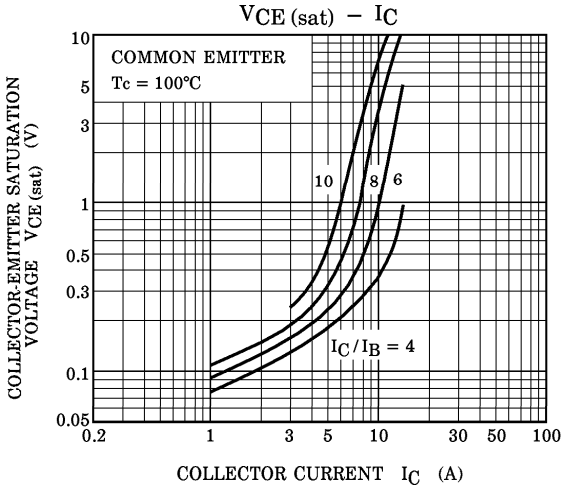
$V_{CE\,(sat)}$ – I_C



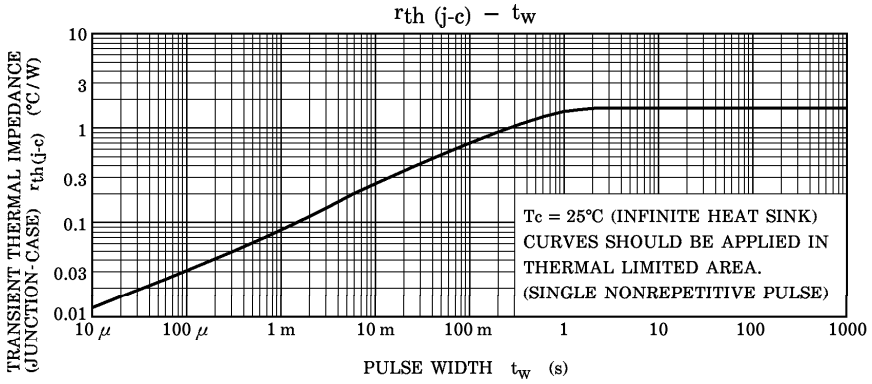
V_{CE} – I_B



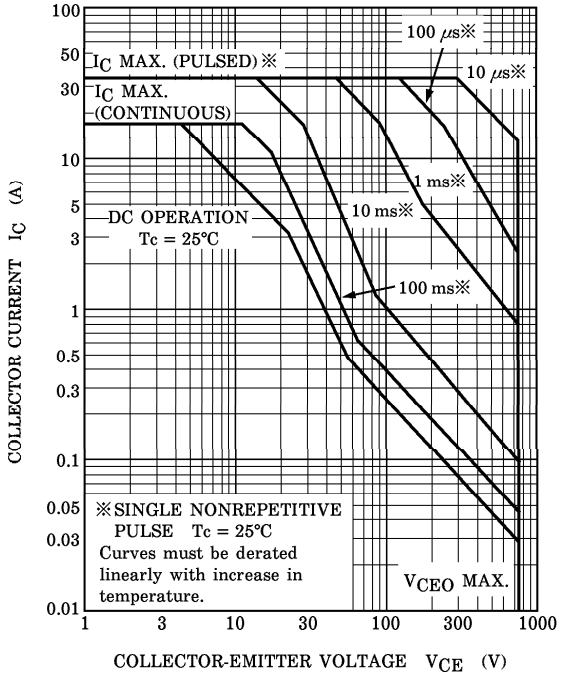
$V_{CE\,(sat)}$ – I_C



r_{th} (j-c) – t_w



SAFE OPERATING AREA



P_C – Tc