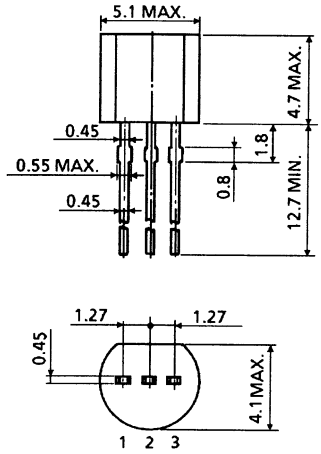
TOSHIBA Transistor Silicon NPN Triple Diffused Type (PCT process)

2SC3333

High Voltage Switching Applications
Color TV Chroma Output Applications

- High voltage: V_{CEO} = 250 V
- Low C_{re}: 1.8 pF (max)
- Complementary to 2SA1320

Unit: mm



1. EMITTER
2. COLLECTOR
3. BASE

JEDEC	TO-92
JEITA	SC-43
TOSHIBA	2-5F1B

Weight: 0.21 g (typ.)

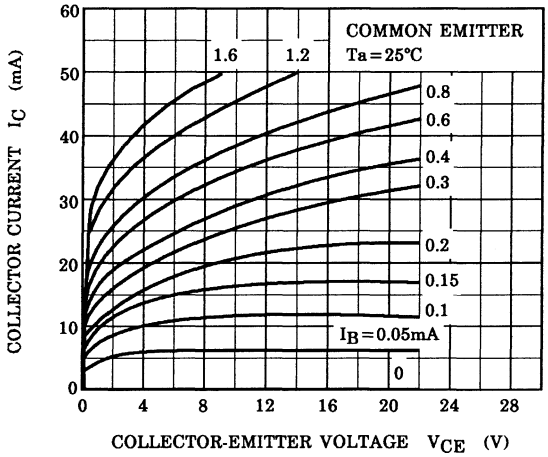
Maximum Ratings (Ta = 25°C)

Characteristics		Symbol	Rating	Unit
Collector-base voltage		V_{CBO}	250	V
Collector-emitter voltage		V_{CEO}	250	V
Emitter-base voltage		V_{EBO}	5	V
Collector current	DC	I_C	50	mA
	Pulsed	I_{CP}	100	
Base current		I_B	20	mA
Collector power dissipation		P_C	0.6	W
Junction temperature		T_j	150	°C
Storage temperature range		T_{stg}	−55~150	°C

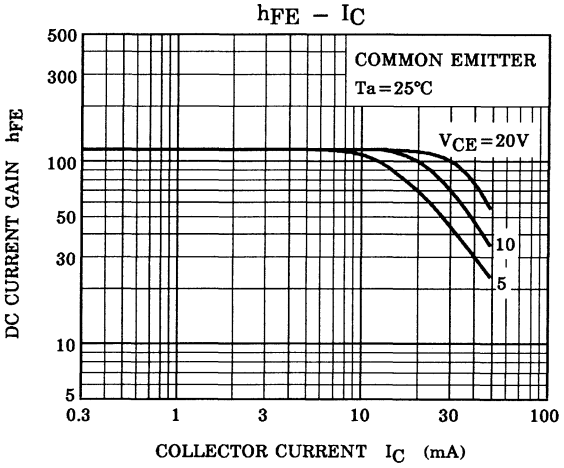
Electrical Characteristics (Ta = 25°C)

Characteristics	Symbol	Test Condition	Min	Typ.	Max	Unit
Collector cut-off current	I_{CBO}	V_{CB} = 200 V, I_E = 0	—	—	0.1	μA
Emitter cut-off current	I_{EBO}	V_{EB} = 5 V, I_C = 0	—	—	0.1	μA
Collector-emitter breakdown voltage	$V_{(BR)\ CEO}$	I_C = 1 mA, I_B = 0	250	—	—	V
DC current gain	h_{FE}	V_{CE} = 20 V, I_C = 25 mA	50	—	—	
Collector-emitter saturation voltage	$V_{CE\ (sat)}$	I_C = 10 mA, I_B = 1 mA	—	—	1.5	V
Base-emitter voltage	V_{BE}	V_{CE} = 20 V, I_C = 25 mA	—	0.75	—	V
Transition frequency	f_T	V_{CE} = 10 V, I_C = 10 mA	60	100	—	MHz
Reverse transfer capacitance	C_{re}	V_{CB} = 30 V, I_E = 0, f = 1 MHz	—	—	1.8	pF

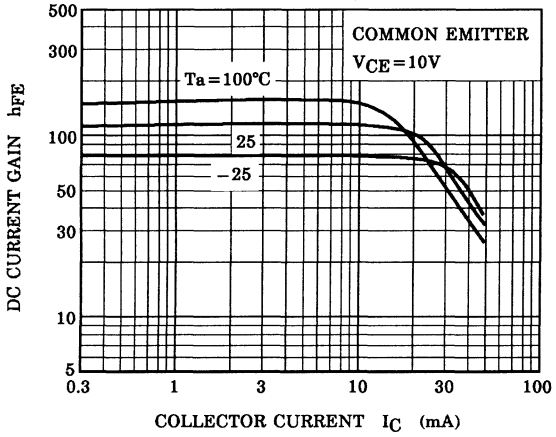
$I_C - V_{CE}$ (LOW VOLTAGE REGION)



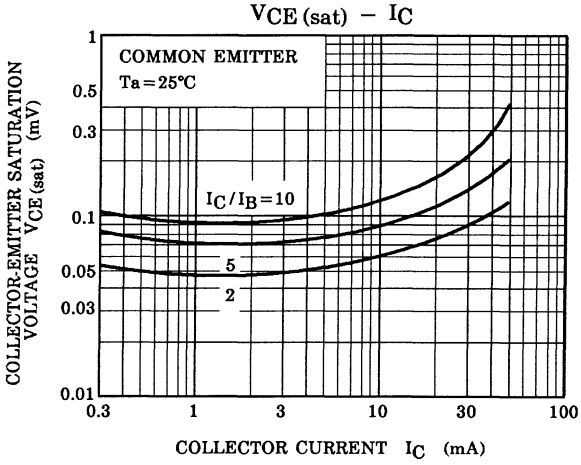
$h_{FE} - I_C$



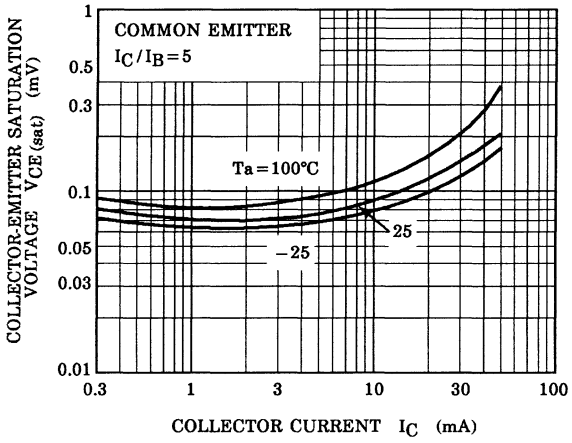
$h_{FE} - I_C$



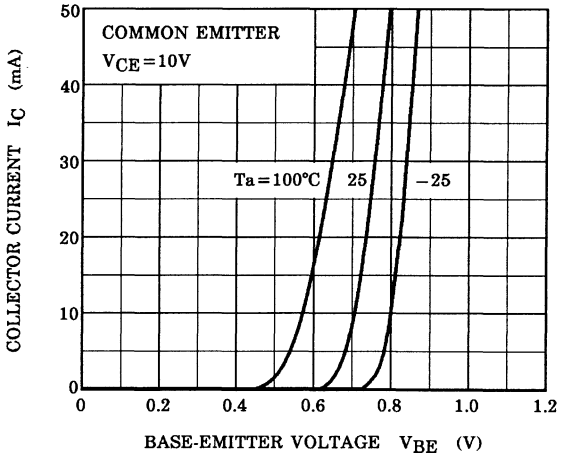
$V_{CE\,(sat)} - I_C$



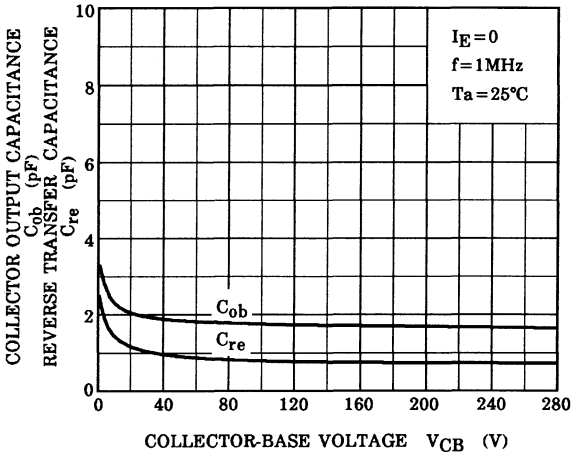
$V_{CE\,(sat)} - I_C$



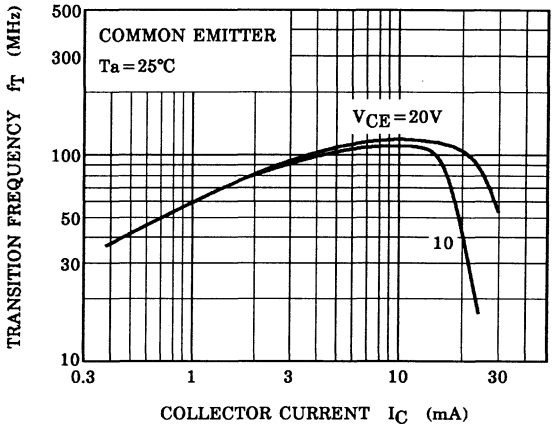
$I_C - V_{BE}$



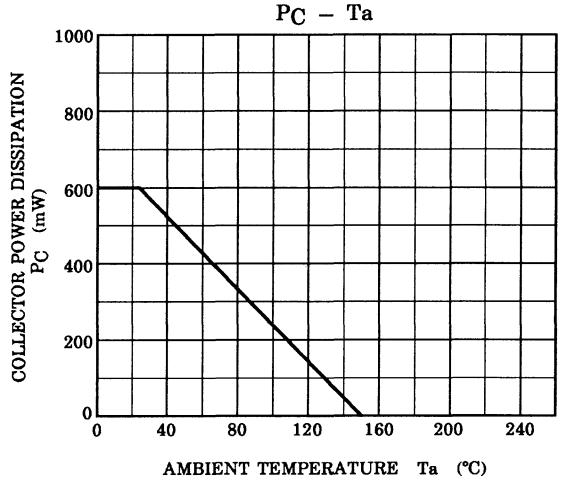
C_{ob}·C_{re} – V_{CB}



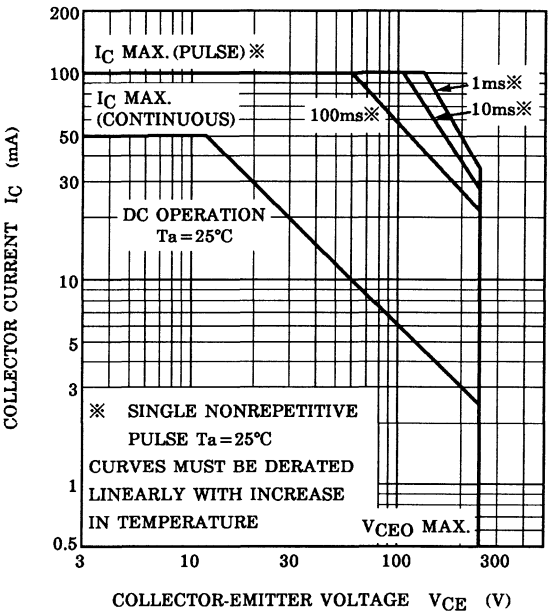
f_T – I_C



P_C – Ta



SAFE OPERATING AREA



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