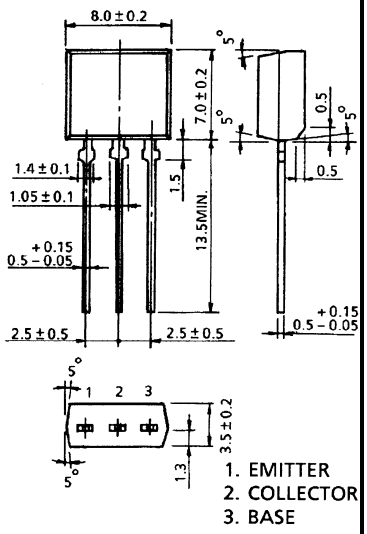
TOSHIBA Transistor Silicon NPN Epitaxial Type (PCT process)

2SC5154

Power Amplifier Applications
Driver Stage Amplifier Applications

- High transition frequency: f_T = 100 MHz (typ.)

Unit: mm



JEDEC	—
JEITA	—
TOSHIBA	2-8M1A

Weight: 0.55 g (typ.)

Maximum Ratings (Ta = 25°C)

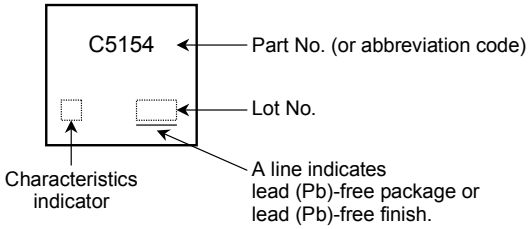
Characteristics		Symbol	Rating	Unit
Collector-base voltage		V_{CBO}	160	V
Collector-emitter voltage		V_{CEO}	160	V
Emitter-base voltage		V_{EBO}	5	V
Collector current	DC	I_C	1.5	A
	Pulse	I_{CP}	3.0	
Base current		I_B	0.15	A
Collector power dissipation		P_C	1.3	W
Junction temperature		T_j	150	°C
Storage temperature range		T_{stg}	−50 to 150	°C

Electrical Characteristics (Ta = 25°C)

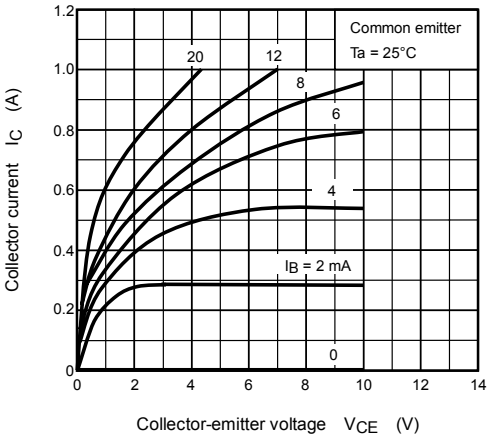
Characteristics	Symbol	Test Condition	Min	Typ.	Max	Unit
Collector cut-off current	I_{CBO}	V_{CB} = 160 V, I_E = 0	—	—	1.0	μA
Emitter cut-off current	I_{EBO}	V_{EB} = 5 V, I_C = 0	—	—	1.0	μA
Collector-emitter breakdown voltage	$V_{(BR)\ CEO}$	I_C = 10 mA, I_B = 0	160	—	—	V
DC current gain	h_{FE} (Note)	V_{CE} = 5 V, I_C = 100 mA	70	—	240	
Collector-emitter saturation voltage	$V_{CE\ (sat)}$	I_C = 500 mA, I_B = 50 mA	—	—	1.0	V
Base-emitter voltage	V_{BE}	V_{CE} = 5 V, I_C = 500 mA	—	0.75	0.95	V
Transition frequency	f_T	V_{CE} = 10 V, I_C = 100 mA	—	100	—	MHz
Collector output capacitance	C_{ob}	V_{CB} = 10 V, I_C = 0, f = 1 MHz	—	25	—	pF

Note: h_{FE} classification O: 70 to 140, Y: 120 to 240

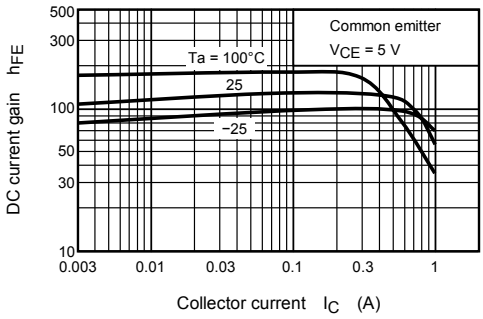
Marking



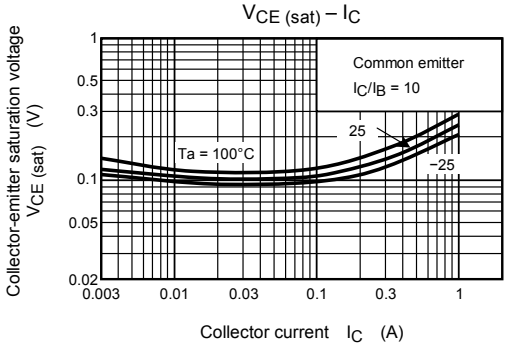
$I_C - V_{CE}$



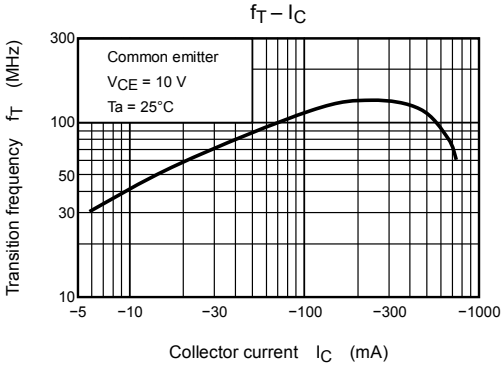
$h_{FE} - I_C$



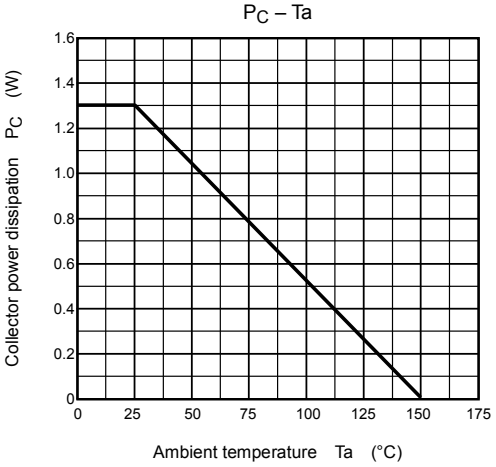
$V_{CE\ (sat)} - I_C$



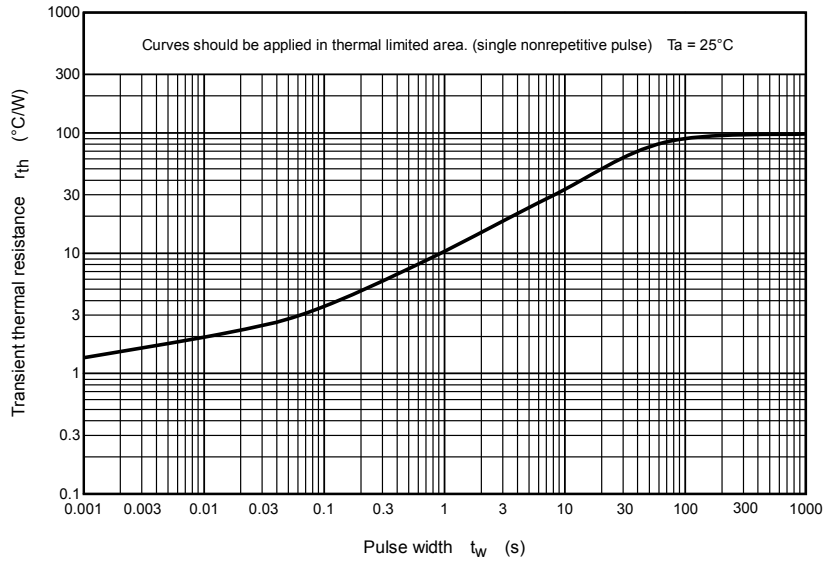
$f_T - I_C$



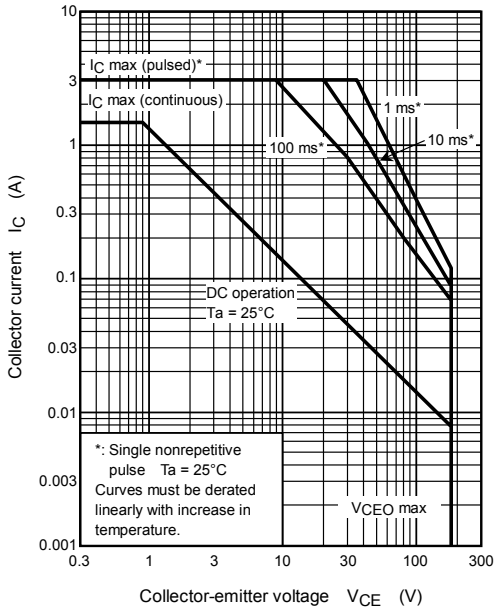
$P_C - Ta$



$r_{th} - t_w$



Safe Operating Area



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