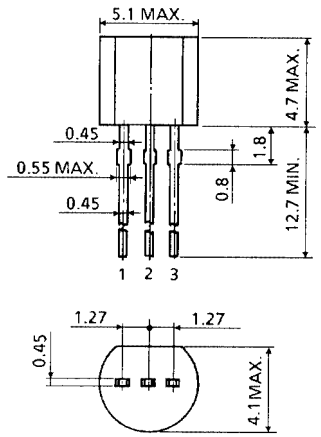
TOSHIBA Transistor Silicon NPN Epitaxial Type (PCT process) (Darlington)

2SC982TM

Printer Drive, Core Drive and LED Drive Applications
Low Frequency Amplifier Applications

- High DC current gain: $h_{FE\ (1)}$ = 5000 (min) (I_C = 10 mA)
  : $h_{FE\ (2)}$ = 10000 (min) (I_C = 100 mA)

Unit: mm

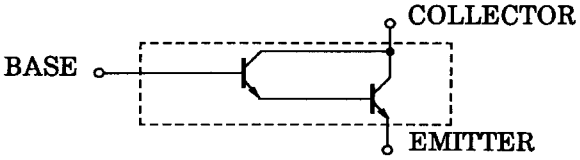


1. EMITTER
2. COLLECTOR
3. BASE

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

Weight: 0.21 g (typ.)

Equivalent Circuit



Maximum Ratings (Ta = 25°C)

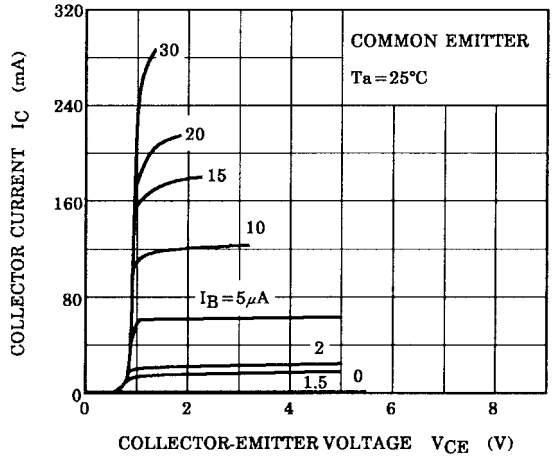
Characteristics		Symbol	Rating	Unit
Collector-base voltage		V_{CBO}	40	V
Collector-emitter voltage		V_{CEO}	40	V
Emitter-base voltage		V_{EBO}	10	V
Collector current	DC	I_C	300	mA
	Pulsed (Note)	I_{CP}	500	
Base current		I_B	10	mA
Collector power dissipation		P_C	400	mW
Junction temperature		T_j	125	°C
Storage temperature range		T_{stg}	−55~125	°C

Note: Pulse width ≦ 10 ms, duty cycle ≦ 10%

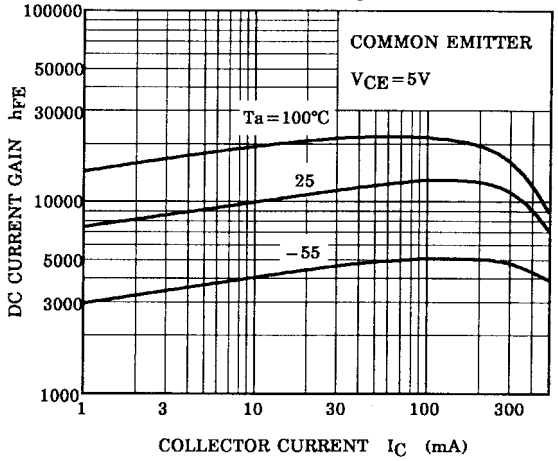
Electrical Characteristics (Ta = 25°C)

Characteristics	Symbol	Test Condition	Min	Typ.	Max	Unit
Collector cut-off current	I_{CBO}	V_{CB} = 40 V, I_E = 0	—	—	0.1	μA
Emitter cut-off current	I_{EBO}	V_{EB} = 8 V, I_C = 0	—	—	0.1	μA
DC current gain	$h_{FE\ (1)}$	V_{CE} = 5 V, I_C = 10 mA	5000	—	—	
	$h_{FE\ (2)}$	V_{CE} = 2 V, I_C = 100 mA	10000	—	—	
Collector-emitter saturation voltage	$V_{CE\ (sat)}$	I_C = 300 mA, I_B = 0.3 mA	—	0.9	1.3	V
Base-emitter voltage	V_{BE}	V_{CE} = 2 V, I_C = 100 mA	—	1.25	1.6	V

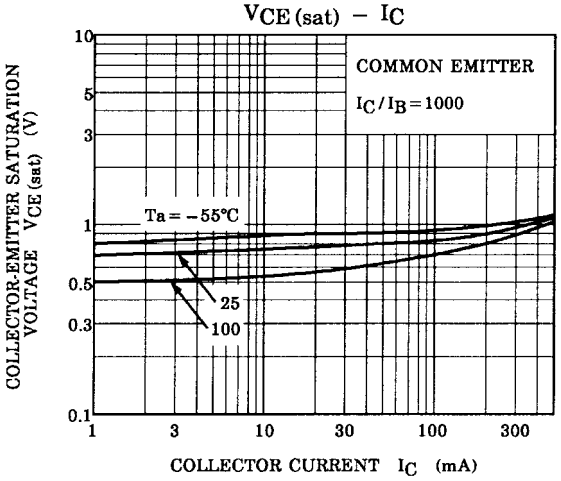
$I_C - V_{CE}$



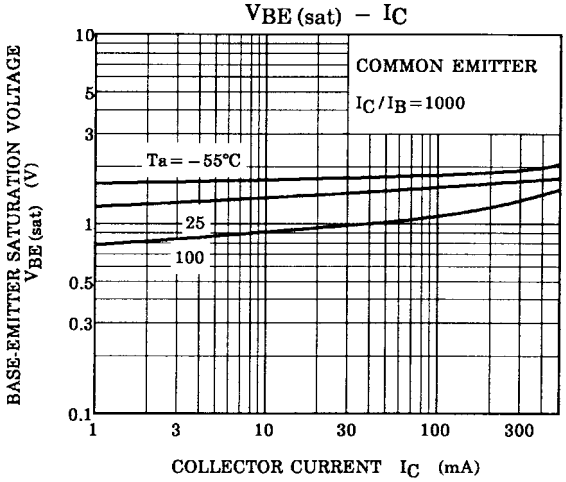
$h_{FE} - I_C$



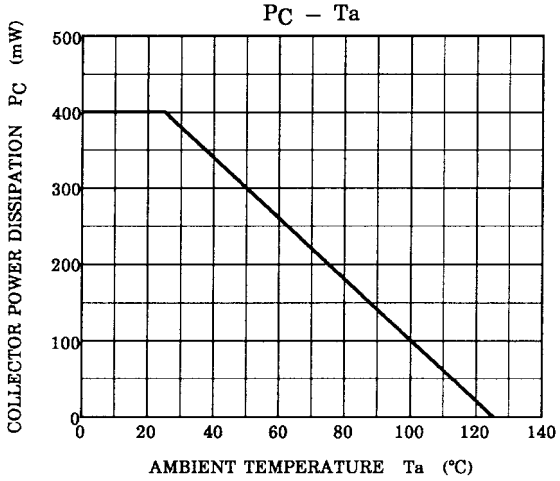
$V_{CE(sat)} - I_C$



$V_{BE(sat)} - I_C$



$P_C - Ta$



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