

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

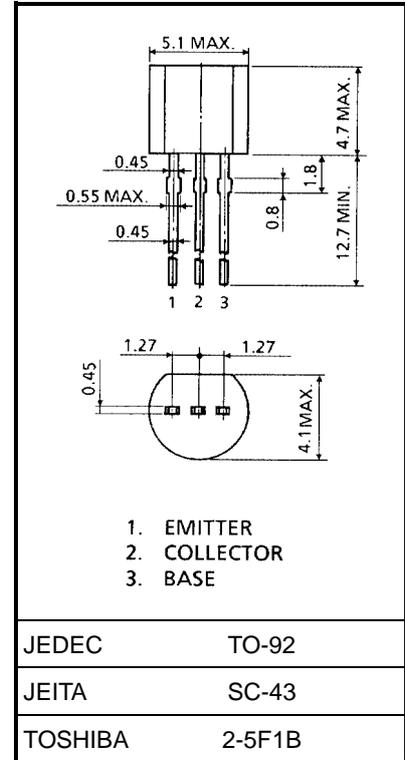
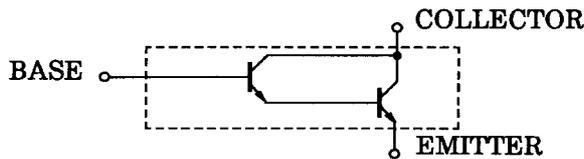
2SC982TM

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

Unit: mm

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

Equivalent Circuit



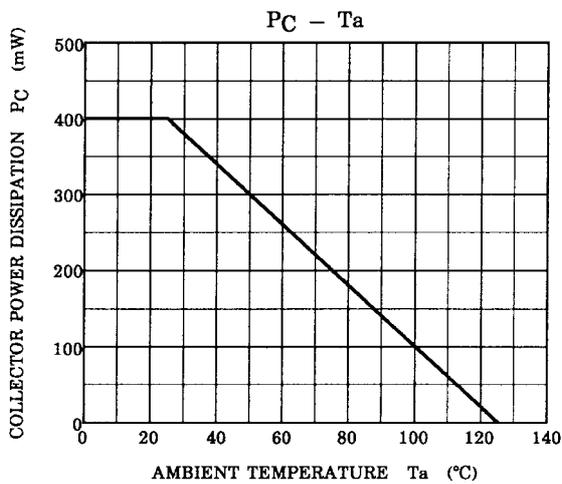
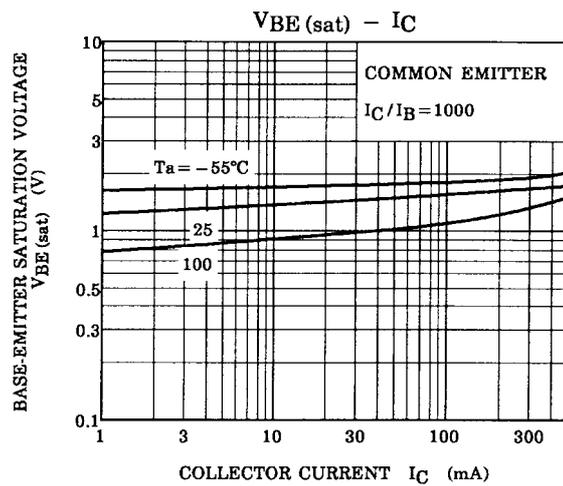
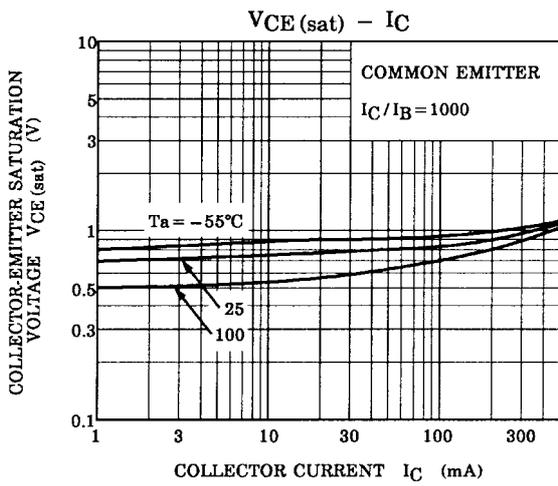
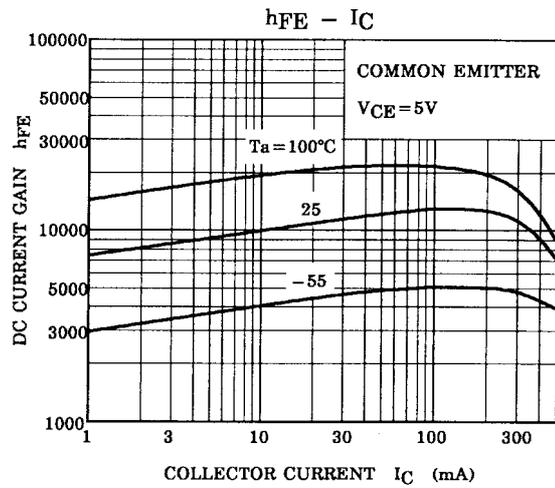
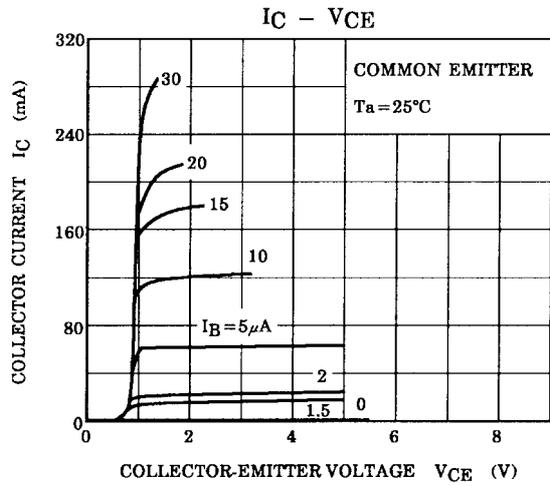
Maximum Ratings ($T_a = 25^\circ\text{C}$)

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
	Pulsed (Note)	I_{CP}	500
Base current	I_B	10	mA
Collector power dissipation	P_C	400	mW
Junction temperature	T_j	125	$^\circ\text{C}$
Storage temperature range	T_{stg}	-55~125	$^\circ\text{C}$

Note: Pulse width ≤ 10 ms, duty cycle $\leq 10\%$

Electrical Characteristics ($T_a = 25^\circ\text{C}$)

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



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