TOSHIBA Transistor Silicon NPN Triple Diffused Type (PCT process)

2SC4497

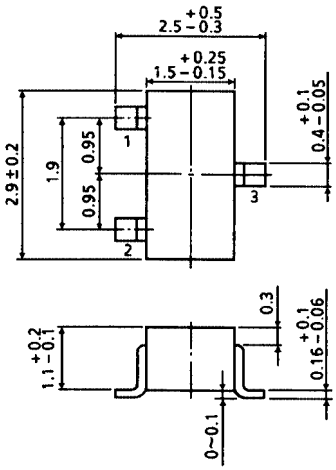
High Voltage Control Applications

- High voltage: V_{CBO} = 300 V, V_{CEO} = 300 V
- Low saturation voltage: $V_{CE\ (sat)}$ = 0.5 V (max)
- Small collector output capacitance: C_{ob} = 3 pF (typ.)
- Complementary to 2SA1721

Maximum Ratings (Ta = 25°C)

Characteristics	Symbol	Rating	Unit
Collector-base voltage	V_{CBO}	300	V
Collector-emitter voltage	V_{CEO}	300	V
Emitter-base voltage	V_{EBO}	6	V
Collector current	I_C	100	mA
Base current	I_B	20	mA
Collector power dissipation	P_C	200	mW
Junction temperature	T_j	150	°C
Storage temperature range	T_{stg}	−55~150	°C

Unit: mm



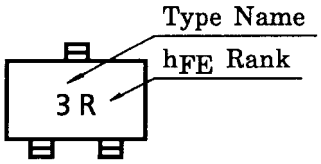
1. BASE
2. EMITTER
3. COLLECTOR

S-MINI

JEDEC	TO-236MOD
JEITA	SC-59
TOSHIBA	2-3F1A

Weight: 0.012 g (typ.)

Marking

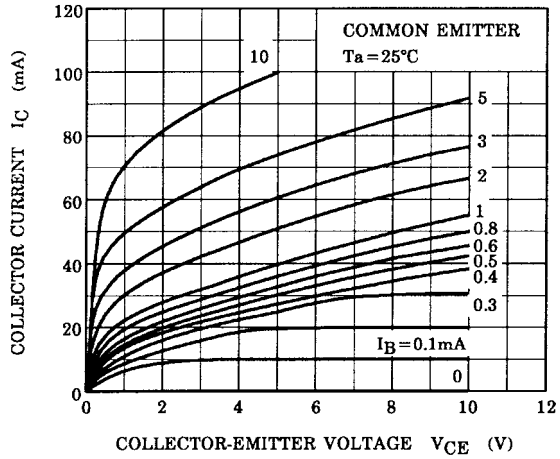


Electrical Characteristics (Ta = 25°C)

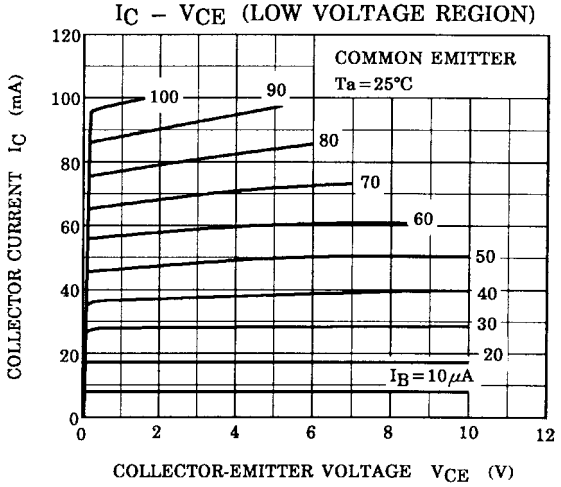
Characteristics	Symbol	Test Condition	Min	Typ.	Max	Unit
Collector cut-off current	I_{CBO}	V_{CB} = 300 V, I_E = 0	—	—	0.1	μA
Emitter cut-off current	I_{EBO}	V_{EB} = 6 V, I_C = 0	—	—	0.1	μA
Collector-base breakdown voltage	$V_{(BR)\ CBO}$	I_C = 0.1 mA, I_E = 0	300	—	—	V
Collector-emitter breakdown voltage	$V_{(BR)\ CEO}$	I_C = 1 mA, I_B = 0	300	—	—	V
DC current gain	$h_{FE\ (1)}$ (Note)	V_{CE} = 10 V, I_C = 20 mA	30	—	150	
	$h_{FE\ (2)}$	V_{CE} = 10 V, I_C = 1 mA	20	—	—	
Collector-emitter saturation voltage	$V_{CE\ (sat)}$	I_C = 20 mA, I_B = 2 mA	—	—	0.5	V
Base-emitter saturation voltage	$V_{BE\ (sat)}$	I_C = 20 mA, I_B = 2 mA	—	—	1.2	V
Transition frequency	f_T	V_{CE} = 10 V, I_C = 10 mA	—	70	—	MHz
Collector output capacitance	C_{ob}	V_{CB} = 20 V, I_E = 0, f = 1 MHz	—	3	4	pF

Note: $h_{FE\ (1)}$ classification R: 30~90, O: 50~150

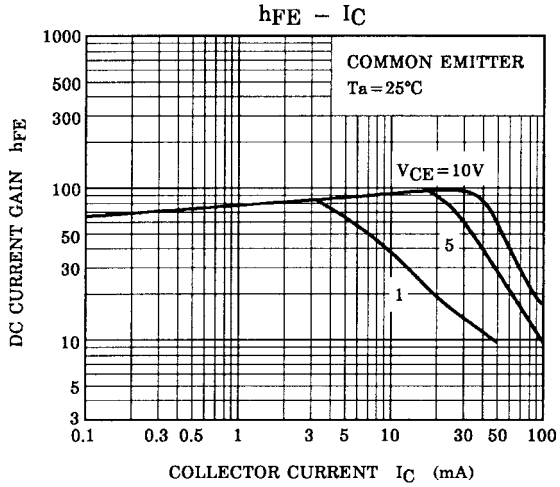
I_C – V_{CE} (LOW VOLTAGE REGION)



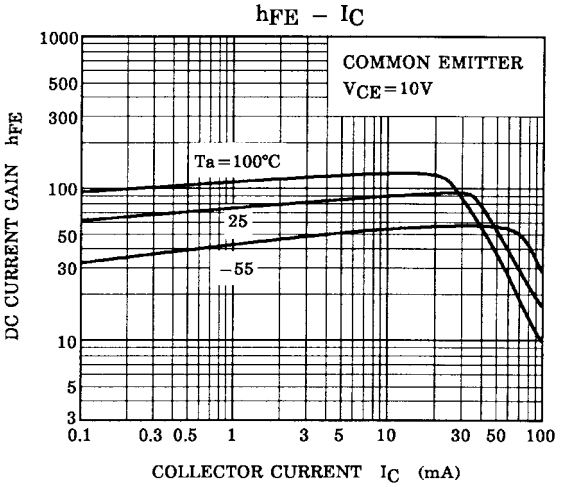
I_C – V_{CE} (LOW VOLTAGE REGION)



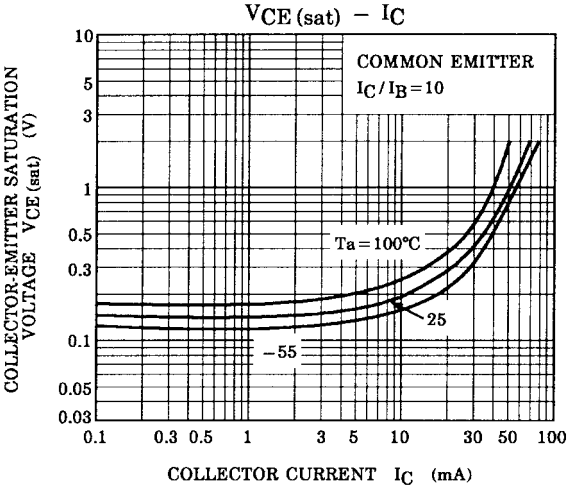
h_{FE} – I_C



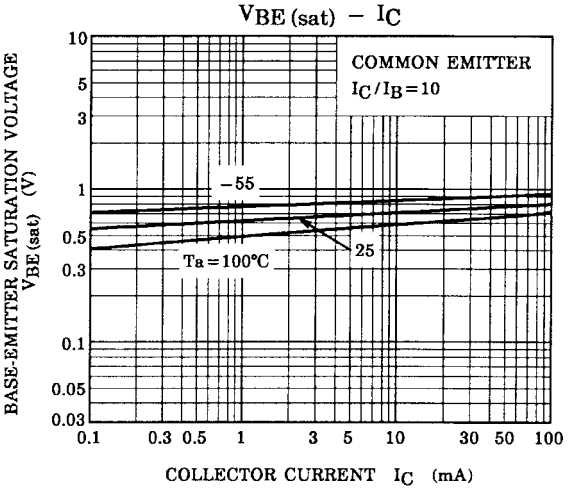
h_{FE} – I_C

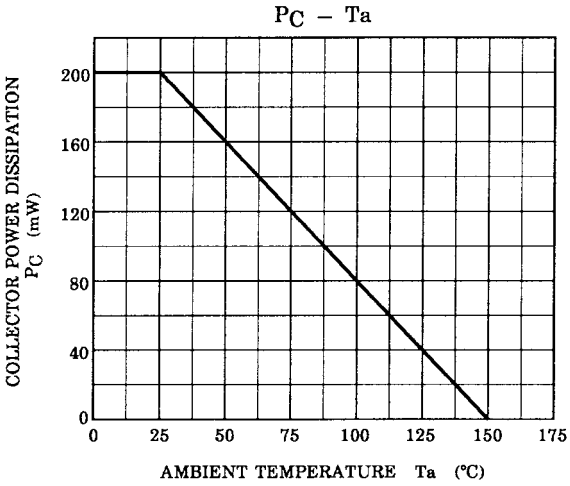


$V_{CE\,(sat)}$ – I_C



$V_{BE\,(sat)}$ – I_C




P_C – Ta
COLLECTOR POWER DISSIPATION P_C (mW)
200
160
120
80
40
0
0
25
50
75
100
125
150
175
AMBIENT TEMPERATURE Ta (°C)

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