

TOSHIBA Transistor Silicon NPN Epitaxial Type (PCT process)

2SC3437

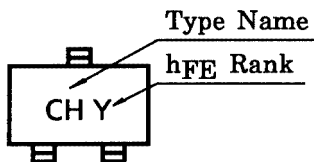
Ultra High Speed Switching Applications
Computer, Counter Applications

- High transition frequency: $f_T = 400 \text{ MHz (typ.)}$
- Low saturation voltage: $V_{CE(sat)} = 0.3 \text{ V (max)}$
- High speed switching time: $t_{stg} = 15 \text{ ns (typ.)}$

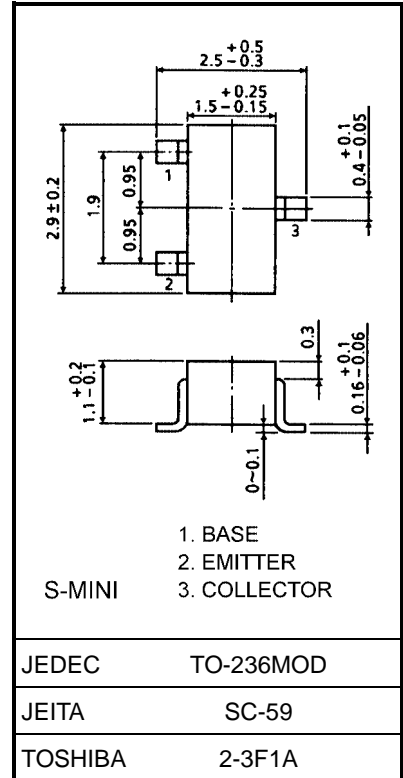
Maximum Ratings ($T_a = 25^\circ\text{C}$)

Characteristics	Symbol	Rating	Unit
Collector-base voltage	V_{CBO}	40	V
Collector-emitter voltage	V_{CEO}	15	V
Emitter-base voltage	V_{EBO}	5	V
Collector current	I_C	200	mA
Base current	I_B	40	mA
Collector power dissipation	P_C	150	mW
Junction temperature	T_j	125	$^\circ\text{C}$
Storage temperature range	T_{stg}	-55~125	$^\circ\text{C}$

Marking



Unit: mm

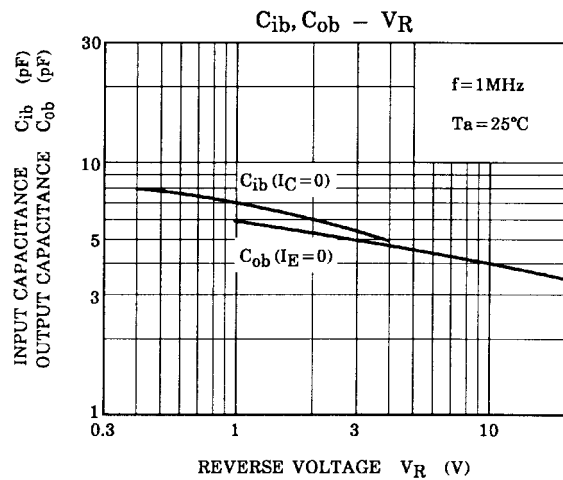
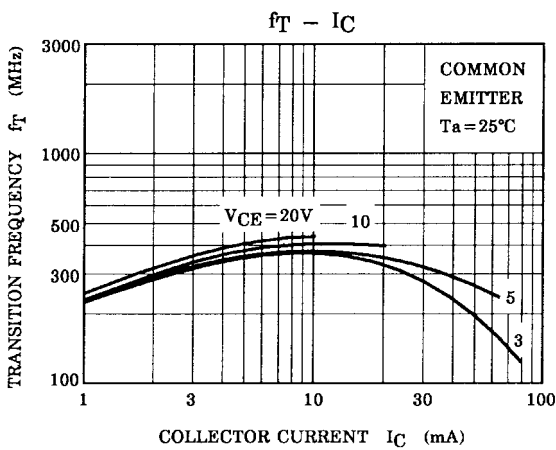
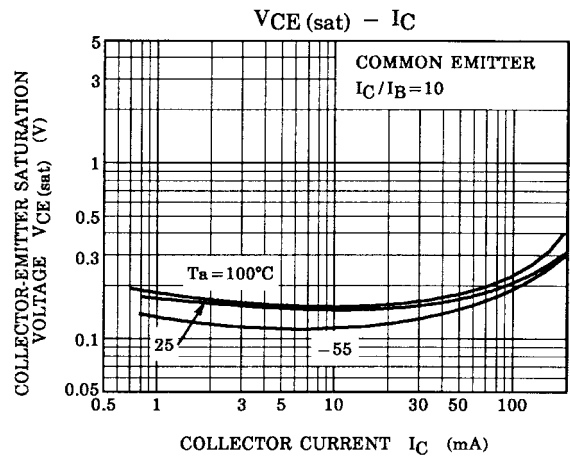
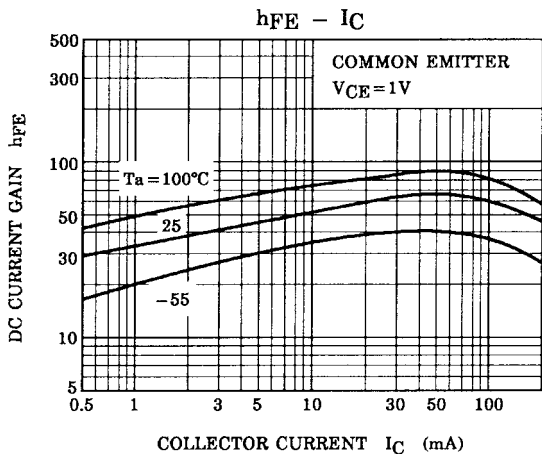
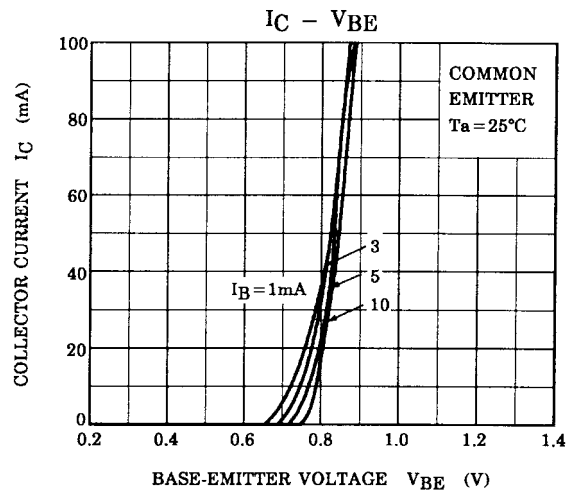
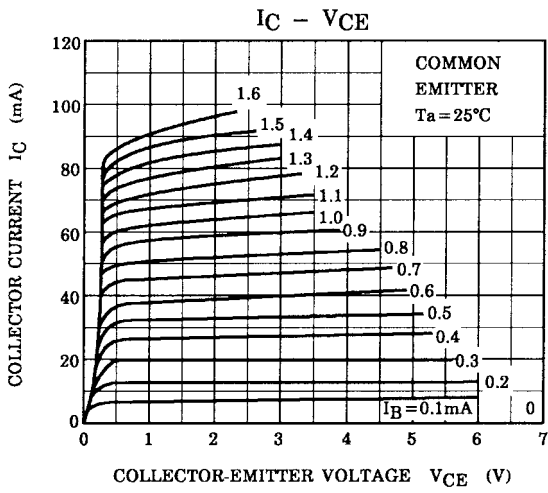


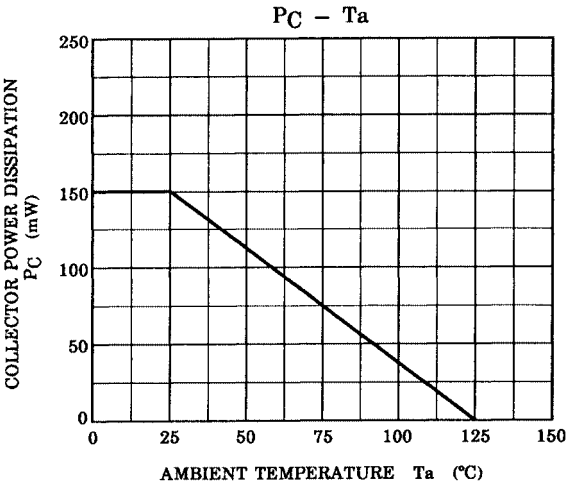
Weight: 0.012 g (typ.)

Electrical Characteristics (Ta = 25°C)

Characteristics		Symbol	Test Condition	Min	Typ.	Max	Unit
Collector cut-off current		I_{CBO}	$V_{CB} = 40\text{ V}, I_E = 0$	—	—	0.1	μA
Emitter cut-off current		I_{EBO}	$V_{EB} = 5\text{ V}, I_C = 0$	—	—	0.1	μA
DC current gain	$h_{FE(1)}$ (Note)		$V_{CE} = 1\text{ V}, I_C = 10\text{ mA}$	40	—	240	
	$h_{FE(2)}$						
Collector-emitter saturation voltage		$V_{CE(sat)}$	$I_C = 20\text{ mA}, I_B = 1\text{ mA}$	—	—	0.3	V
Base-emitter saturation voltage		$V_{BE(sat)}$	$I_C = 20\text{ mA}, I_B = 1\text{ mA}$	—	—	1.0	V
Transition frequency		f_T	$V_{CE} = 10\text{ V}, I_C = 10\text{ mA}$	200	400	—	MHz
Collector output capacitance		C_{ob}	$V_{CB} = 10\text{ V}, I_E = 0, f = 1\text{ MHz}$	—	4	6	pF
Switching time	Turn-on time	t_{on}	<p>Duty cycle $\leq 2\%$</p>	—	70	—	ns
	Storage time	t_{stg}		—	15	—	
	Fall time	t_f		—	30	—	

Note: $h_{FE(1)}$ classification R: 40~80, O: 70~140, Y: 120~240





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