

TOSHIBA Transistor Silicon NPN Epitaxial Type (PCT Process)

2SC3419

Medium-Power Amplifier Applications.

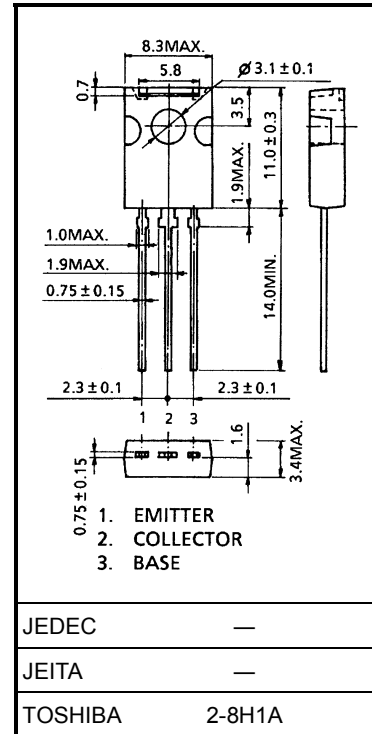
- Low saturation voltage: $V_{CE(sat)} = 0.25 \text{ V (typ.)}$
($I_C = 500 \text{ mA}$, $I_B = 50 \text{ mA}$)
- High collector power dissipation: $P_C = 1.2 \text{ W (Ta = 25°C)}$
- Complementary to 2SA1356

Absolute Maximum Ratings (Tc = 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}	5	V
Collector current	I_C	800	mA
Base current	I_B	80	mA
Collector power dissipation	$T_a = 25^\circ\text{C}$	1.2	W
	$T_c = 25^\circ\text{C}$	5	
Junction temperature	T_j	150	°C
Storage temperature range	T_{stg}	-55 to 150	°C

Note: Using continuously under heavy loads (e.g. the application of high temperature/current/voltage and the significant change in temperature, etc.) may cause this product to decrease in the reliability significantly even if the operating conditions (i.e. operating temperature/current/voltage, etc.) are within the absolute maximum ratings. Please design the appropriate reliability upon reviewing the Toshiba Semiconductor Reliability Handbook ("Handling Precautions"/Derating Concept and Methods) and individual reliability data (i.e. reliability test report and estimated failure rate, etc).

Unit: mm



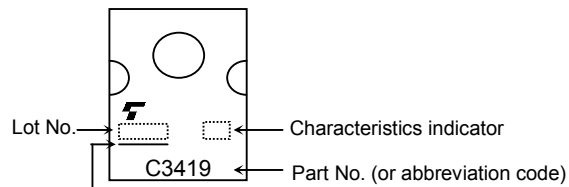
Weight: 0.82 g (typ.)

Electrical Characteristics (Tc = 25°C)

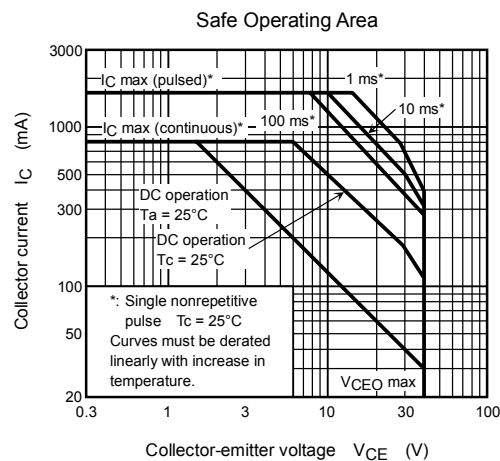
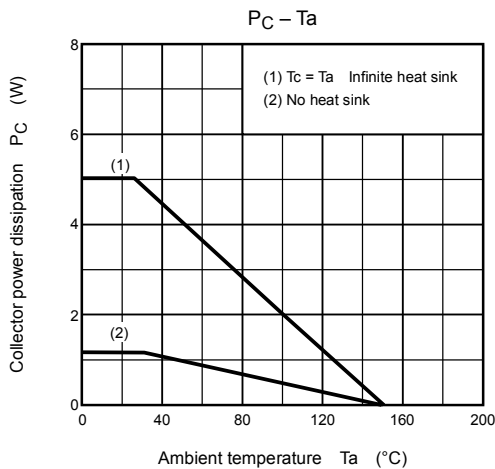
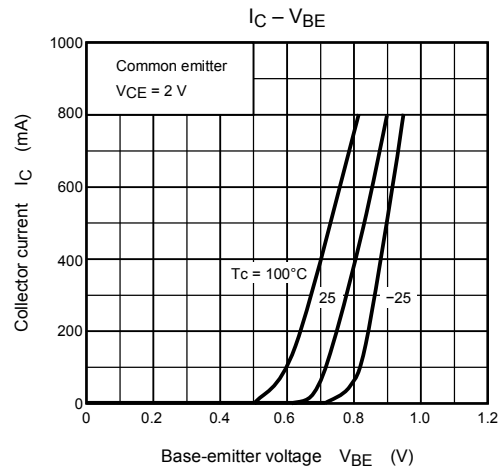
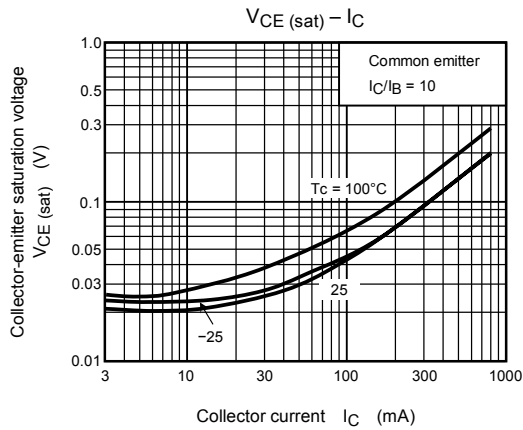
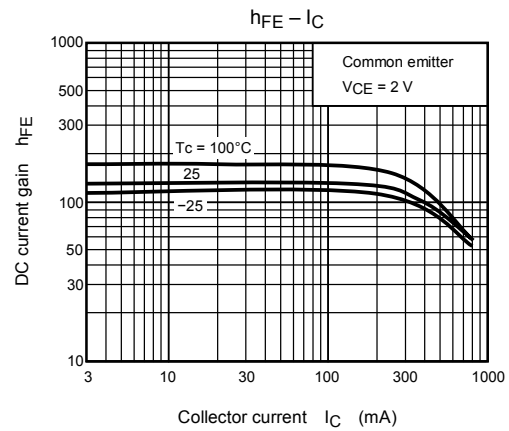
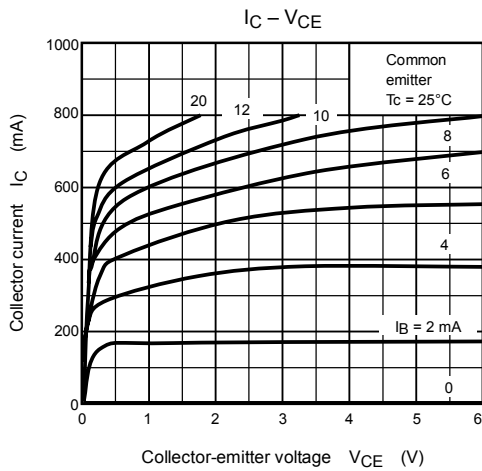
Characteristics	Symbol	Test Condition	Min	Typ.	Max	Unit
Collector cut-off current	I_{CBO}	$V_{CB} = 40\text{ V}, I_E = 0$	—	—	1.0	μA
Emitter cut-off current	I_{EBO}	$V_{EB} = 5\text{ V}, I_C = 0$	—	—	1.0	μA
Collector-emitter breakdown voltage	V_{CEO}	$I_C = 10\text{ mA}, I_B = 0$	40	—	—	V
DC current gain	$h_{FE(1)}$ (Note)	$V_{CE} = 2\text{ V}, I_C = 50\text{ mA}$	70	—	240	
	$h_{FE(2)}$	$V_{CE} = 2\text{ V}, I_C = 0.8\text{ A}$	13	60	—	
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C = 500\text{ mA}, I_B = 50\text{ mA}$	—	0.25	0.8	V
Base-emitter voltage	V_{BE}	$V_{CE} = 2\text{ V}, I_C = 500\text{ mA}$	—	0.90	1.1	V
Transition frequency	f_T	$V_{CE} = 2\text{ V}, I_C = 0.5\text{ A}$	50	100	—	MHz
Collector output capacitance	C_{ob}	$V_{CB} = 10\text{ V}, I_E = 0, f = 1\text{ MHz}$	—	10	—	pF

Note: $h_{FE(1)}$ classification O: 70 to 140, Y: 120 to 240

Marking



A line indicates lead (Pb)-free package or lead (Pb)-free finish.



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