TOSHIBA Transistor Silicon NPN Epitaxial Type (PCT process)

2SC4209

Driver Stage Amplifier Applications Voltage Amplifier Applications

• Complementary to 2SA1620

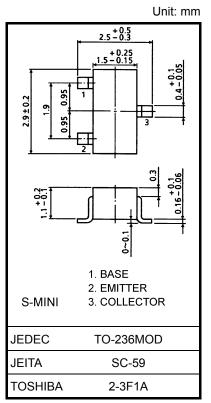
Absolute Maximum Ratings (Ta = 25°C)

Characteristics	Symbol	Rating	Unit
Collector-base voltage	V_{CBO}	80	V
Collector-emitter voltage	V _{CEO}	80	V
Emitter-base voltage	V _{EBO}	5	V
Collector current	IC	300	mA
Base current	Ι _Β	60	mA
Collector power dissipation	PC	200	mW
Junction temperature	Tj	150	°C
Storage temperature range	T _{stg}	−55~150	°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).



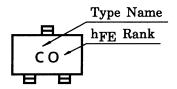
Weight: 0.012 g (typ.)

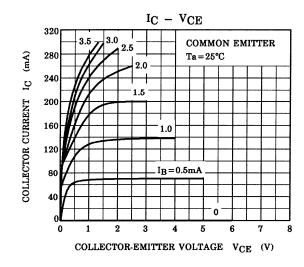
Electrical Characteristics (Ta = 25°C)

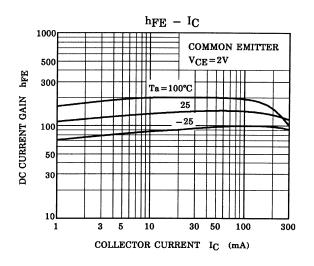
Characteristics	Symbol	Test Condition	Min	Тур.	Max	Unit
Collector cut-off current	I _{CBO}	$V_{CB} = 50 \text{ V}, I_{E} = 0$	_	_	0.1	μΑ
Emitter cut-off current	I _{EBO}	$V_{EB} = 5 \text{ V}, I_{C} = 0$	_	_	0.1	μΑ
Collector-emitter breakdown voltage	V (BR) CEO	$I_C = 5 \text{ mA}, I_B = 0$	80	_	_	V
DC current gain	h _{FE (1)} (Note)	V _{CE} = 2 V, I _C = 50 mA	70	_	240	
	h _{FE (2)}	V _{CE} = 2 V, I _C = 200 mA	40	_	_	
Collector-emitter saturation voltage	V _{CE (sat)}	$I_C = 200 \text{ mA}, I_B = 10 \text{ mA}$	_	_	0.5	V
Base-emitter voltage	V_{BE}	$V_{CE} = 2 \text{ V}, I_{C} = 5 \text{ mA}$	0.55	_	0.8	V
Transition frequency	f _T	V _{CE} = 10 V, I _C = 10 mA	_	100	_	MHz
Collector output capacitance	C _{ob}	V _{CB} = 10 V, I _E = 0, f = 1 MHz		10		pF

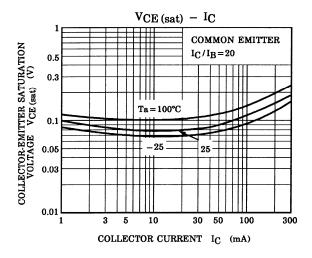
Note: $h_{FE(1)}$ classification O: 70~140, Y: 120~240

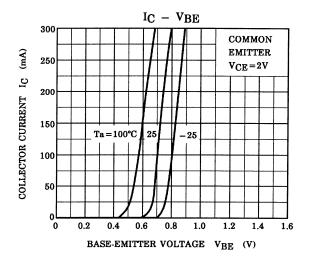
Marking

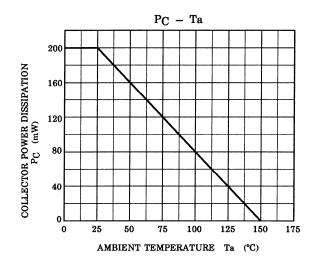












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