

TOSHIBA Transistor Silicon NPN Epitaxial Type

2SC6079

Power Amplifier Applications

Power Switching Applications

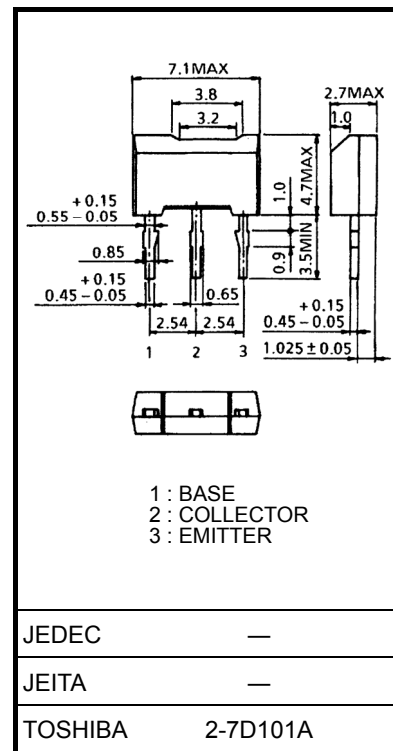
Unit: mm

Low collector saturation voltage: $V_{CE(sat)} = 0.5\text{ V (max)}$ ($I_C = 1\text{ A}$)High-speed switching: $t_{stg} = 0.4\text{ }\mu\text{s (typ)}$

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

Characteristic		Symbol	Rating	Unit
Collector-base voltage		V_{CBO}	160	V
Collector-emitter voltage		V_{CEX}	160	V
Collector-emitter voltage		V_{CEO}	80	V
Emitter-base voltage		V_{EBO}	9	V
Collector current	DC	I_C	2.0	A
	Pulse	I_{CP}	4.0	A
Base current		I_B	1.5	A
Collector power dissipation		P_C	1	W
Junction temperature		T_j	150	$^\circ\text{C}$
Storage temperature range		T_{stg}	$-55 \sim 150$	$^\circ\text{C}$

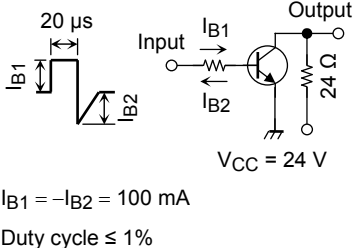


Weight: 0.2g(typ)

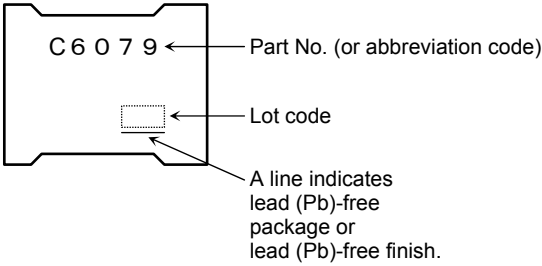
Note: Using continuously under heavy loads (e.g. the application of high temperature/current/voltage and the significant change in temperature, etc.) may cause this product to decrease in the reliability significantly even if the operating conditions (i.e. operating temperature/current/voltage, etc.) are within the absolute maximum ratings.

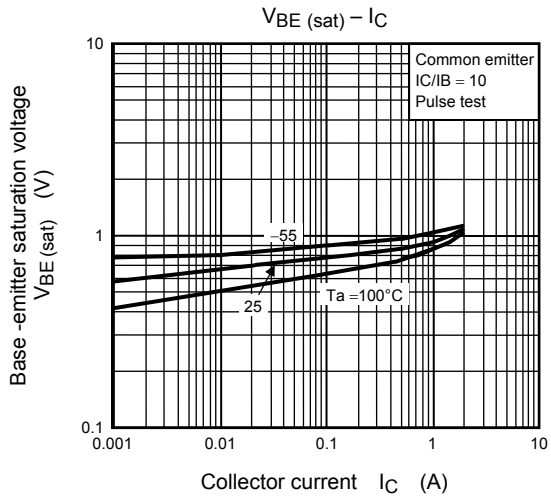
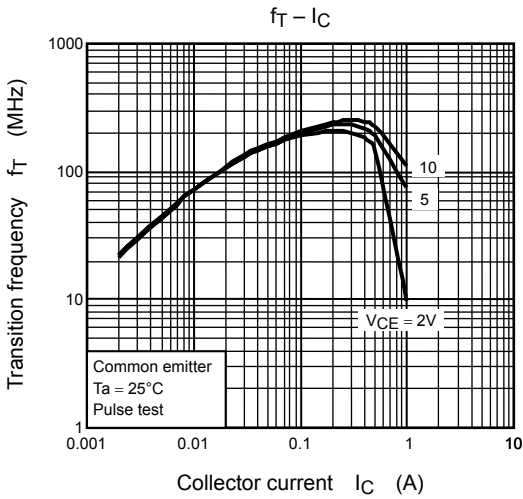
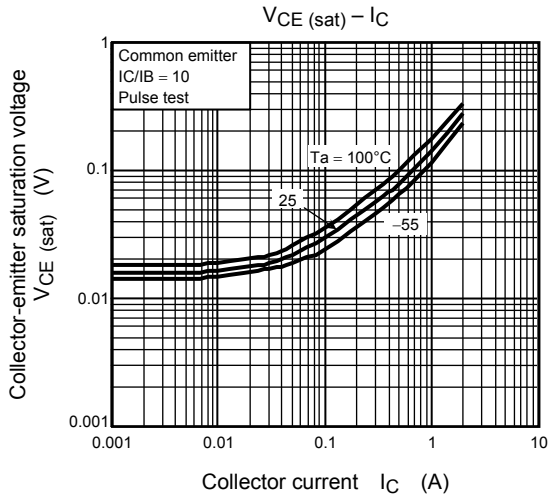
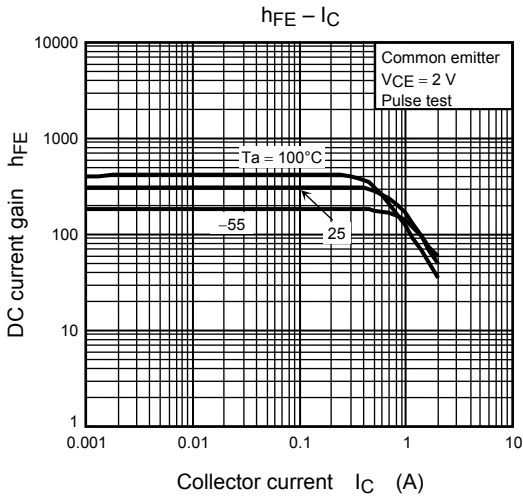
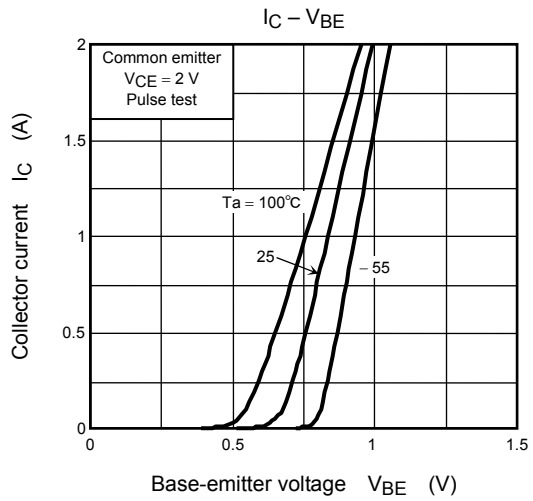
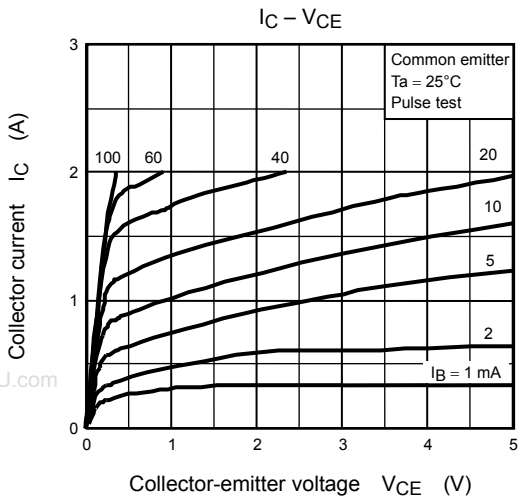
Please design the appropriate reliability upon reviewing the Toshiba Semiconductor Reliability Handbook ("Handling Precautions"/Derating Concept and Methods) and individual reliability data (i.e. reliability test report and estimated failure rate, etc).

Electrical Characteristics (Ta = 25°C)

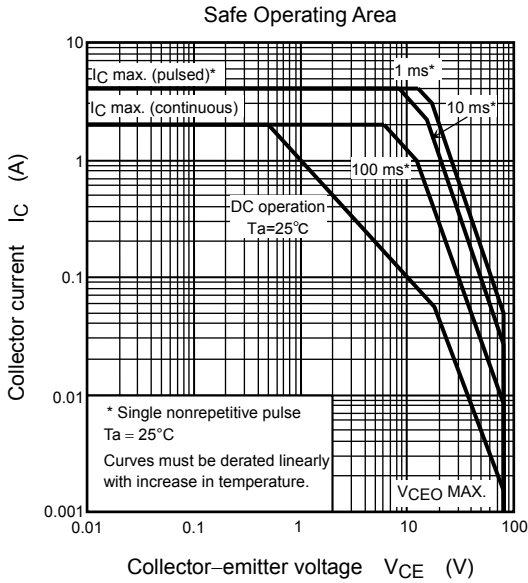
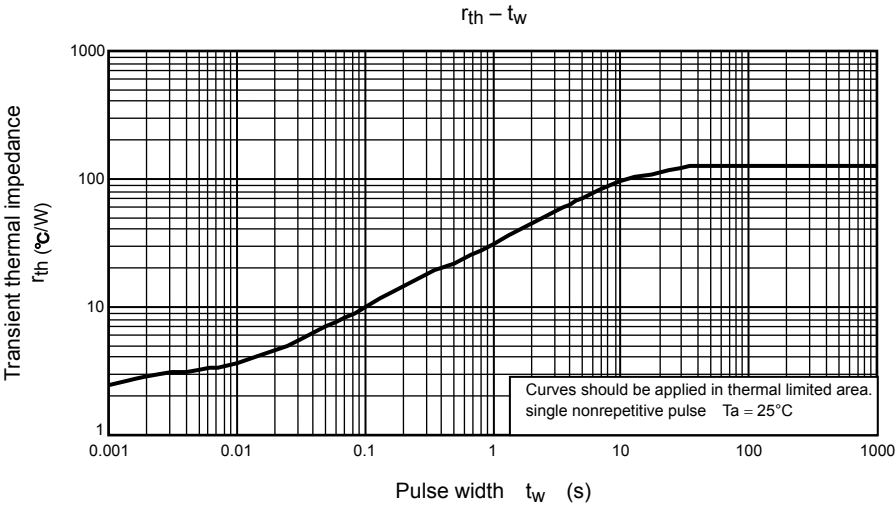
Characteristic		Symbol	Test Conditions	Min	Typ.	Max	Unit
Collector cut-off current		ICBO	V _{CB} = 160 V, I _E = 0	—	—	1.0	μA
Emitter cut-off current		IEBO	V _{EB} = 9 V, I _C = 0	—	—	1.0	μA
Collector-emitter breakdown voltage		V (BR) CEO	I _C = 10 mA, I _B = 0	80	—	—	V
DC current gain		h _{FE} (1)	V _{CE} = 2 V, I _C = 1 mA	150	—	—	
		h _{FE} (2)	V _{CE} = 2 V, I _C = 0.5 A	180	—	450	
		h _{FE} (3)	V _{CE} = 2 V, I _C = 1 A	100	—	—	
Collector emitter saturation voltage		V _{CE} (sat) (1)	I _C = 0.5 A, I _B = 50 mA	—	—	0.3	V
		V _{CE} (sat) (2)	I _C = 1 A, I _B = 100 mA	—	—	0.5	V
Base-emitter saturation voltage		V _{BE} (sat)	I _C = 1 A, I _B = 100 mA	—	—	1.5	V
Transition frequency		f _T	V _{CE} = 2 V, I _C = 0.5 A	—	150	—	MHz
Collector output capacitance		C _{ob}	V _{CB} = 10 V, I _E = 0, f = 1MHz	—	14	—	pF
Switching time	Rise time	t _r		—	0.05	—	μs
	Storage time	t _{stg}		—	0.4	—	
	Fall time	t _f		—	0.15	—	

Marking





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