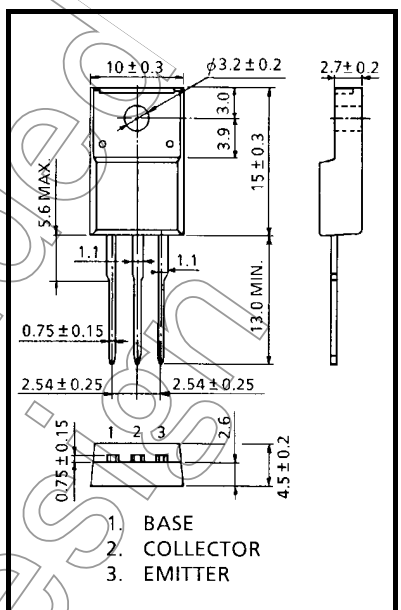
TOSHIBA Transistor Silicon NPN Triple Diffused Type

2SC5563

Dynamic Focus Applications

- High voltage: V_{CEO} = 1500 V
- Small collector output capacitance: C_{ob} = 2.1 pF (typ.) (V_{CB} = 100 V)

Unit: mm



JEDEC	—
JEITA	SC-67
TOSHIBA	2-10R1A

Weight: 1.7 g (typ.)

Absolute Maximum Ratings (Ta = 25°C)

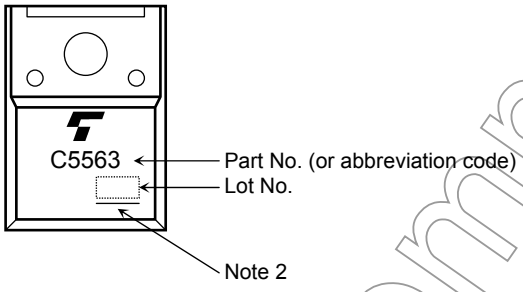
Characteristics		Symbol	Rating	Unit
Collector-base voltage		V_{CBO}	1500	V
Collector-emitter voltage		V_{CEO}	1500	V
Emitter-base voltage		V_{EBO}	7	V
Collector current	DC	I_C	20	mA
	Pulse	I_{CP}	40	
Base current		I_B	10	mA
Collector power dissipation	Tc = 25°C	P_C	10	W
	Ta = 25°C		2	
Junction temperature		T_j	150	°C
Storage temperature range		T_{stg}	−55 to 150	°C

Note 1: 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)

Characteristics	Symbol	Test Condition	Min	Typ.	Max	Unit
Collector cut-off current	I_{CBO}	V_{CB} = 1500 V, I_E = 0	—	—	1	μA
Emitter cut-off current	I_{EBO}	V_{EB} = 7 V, I_C = 0	—	—	10	μA
Collector-base breakdown voltage	$V_{(BR)\ CBO}$	I_C = 0.1 mA, I_E = 0	1500	—	—	V
Collector-emitter breakdown voltage	$V_{(BR)\ CEO}$	I_C = 1 mA, I_B = 0	1500	—	—	V
DC current gain	h_{FE}	V_{CE} = 5 V, I_C = 1 mA	10	—	60	
Collector-emitter saturation voltage	$V_{CE\ (sat)(1)}$	I_C = 1.5 mA, I_B = 0.3 mA	—	—	0.5	V
	$V_{CE\ (sat)(2)}$	I_C = 10 mA, I_B = 2 mA	—	—	5.0	V
Base-emitter saturation voltage	$V_{BE\ (sat)}$	I_C = 1.5 mA, I_B = 0.3 mA	—	—	1.3	V
Collector output capacitance	C_{ob}	V_{CB} = 100 V, f = 1 MHz, I_E = 0	—	2.1	—	pF

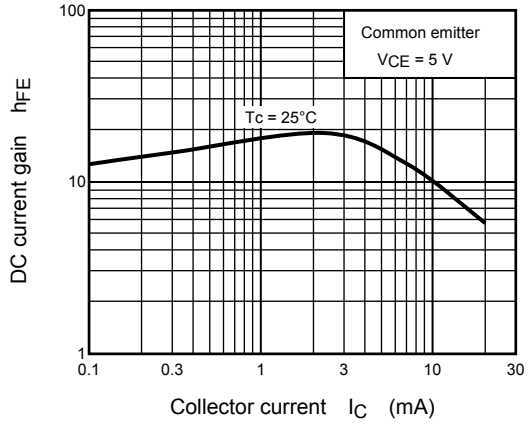
Marking



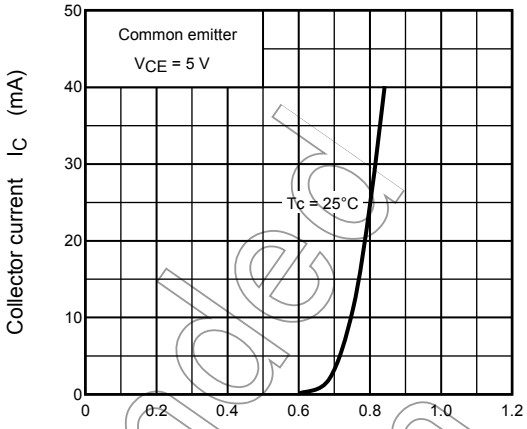
Note 2: A line under a Lot No. identifies the indication of product Labels.
Not underlined: [[Pb]]/INCLUDES > MCV
Underlined: [[G]]/RoHS COMPATIBLE or [[G]]/RoHS [[Pb]]

Please contact your TOSHIBA sales representative for details as to environmental matters such as the RoHS compatibility of Product. The RoHS is the Directive 2002/95/EC of the European Parliament and of the Council of 27 January 2003 on the restriction of the use of certain hazardous substances in electrical and electronic equipment.

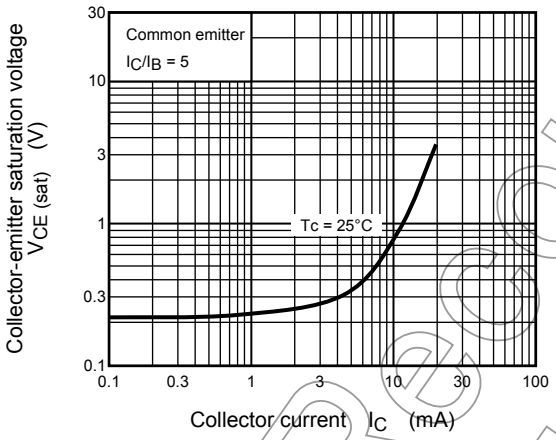
$h_{FE} - I_C$



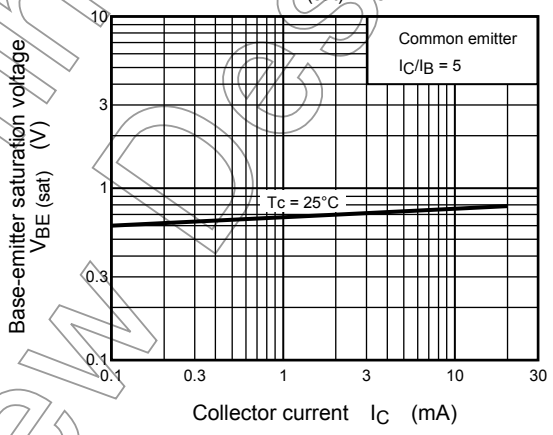
$I_C - V_{BE}$



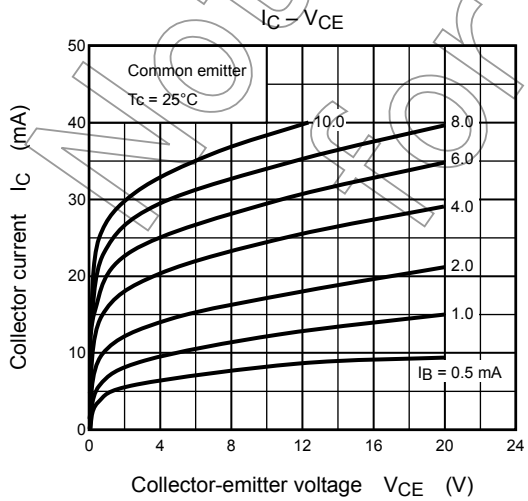
$V_{CE\ (sat)} - I_C$



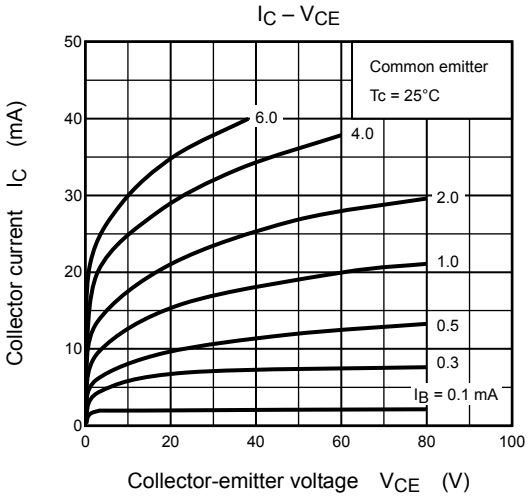
$V_{BE\ (sat)} - I_C$



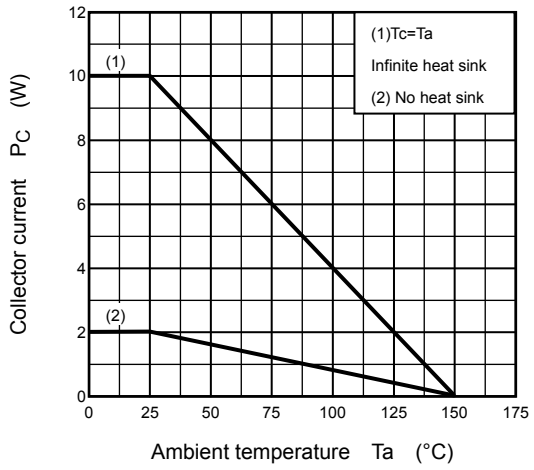
$I_C - V_{CE}$



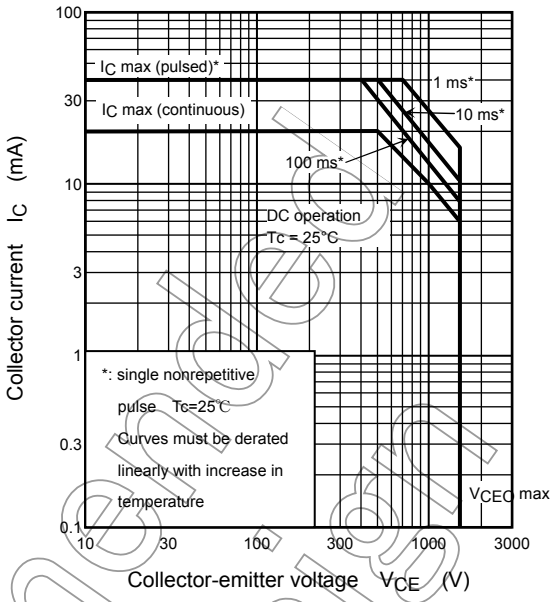
$I_C - V_{CE}$



P_C – Ta



Safe Operating Area



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