

TOSHIBA Transistor Silicon NPN Triple Diffused Type

# 2SC5122

## High-Voltage switching Applications

- High breakdown voltage:  $V_{CE0} = 400 \text{ V}$
- Low saturation voltage:  $V_{CE(\text{sat})} = 0.4 \text{ V (typ.)}$   
( $I_C = 20 \text{ mA}$ ,  $I_B = 0.5 \text{ mA}$ )

### Absolute Maximum Ratings (Ta = 25°C)

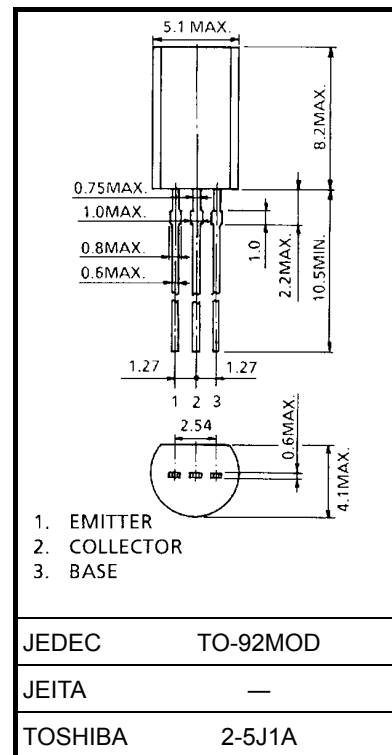
Characteristics		Symbol	Rating	Unit
Collector-base voltage		$V_{CBO}$	400	V
Collector-emitter voltage		$V_{CEO}$	400	V
Emitter-base voltage		$V_{EBO}$	7	V
Collector current	DC	$I_C$	50	mA
	Pulse	$I_{CP}$	100	
Base current		$I_B$	25	mA
Collector power dissipation		$P_C$	900	mW
Junction temperature		$T_j$	150	°C
Storage temperature range		$T_{stg}$	-55 to 150	°C

Note1: 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.

Weight: 0.36 g (typ.)

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

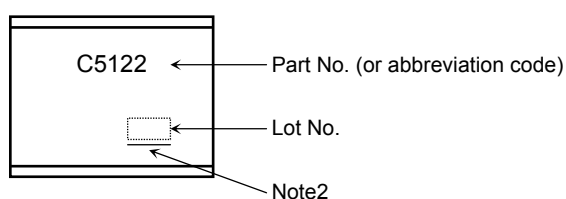


Weight: 0.36 g (typ.)

## Electrical Characteristics (Ta = 25°C)

Characteristics	Symbol	Test Condition	Min	Typ.	Max	Unit
Collector cut-off current	$I_{CBO}$	$V_{CB} = 400\text{ V}, I_E = 0$	—	—	1	$\mu\text{A}$
Emitter cut-off current	$I_{EBO}$	$V_{EB} = 7\text{ V}, I_C = 0$	—	—	1	$\mu\text{A}$
Collector-emitter breakdown voltage	$V_{(BR) CEO}$	$I_C = 1\text{ mA}, I_B = 0$	400	—	—	V
DC current gain	$h_{FE (1)}$	$V_{CE} = 5\text{ V}, I_C = 1\text{ mA}$	80	—	—	
	$h_{FE (2)}$	$V_{CE} = 5\text{ V}, I_C = 20\text{ mA}$	100	—	300	
Collector-emitter saturation voltage	$V_{CE (sat)}$	$I_C = 20\text{ mA}, I_B = 0.5\text{ mA}$	—	0.4	1.0	V
Base-emitter voltage	$V_{BE}$	$V_{CE} = 5\text{ V}, I_C = 20\text{ mA}$	—	0.7	1.0	V
Collector output capacitance	$C_{ob}$	$V_{CB} = 10\text{ V}, I_E = 0, f = 1\text{ MHz}$	—	4	—	pF

## Marking

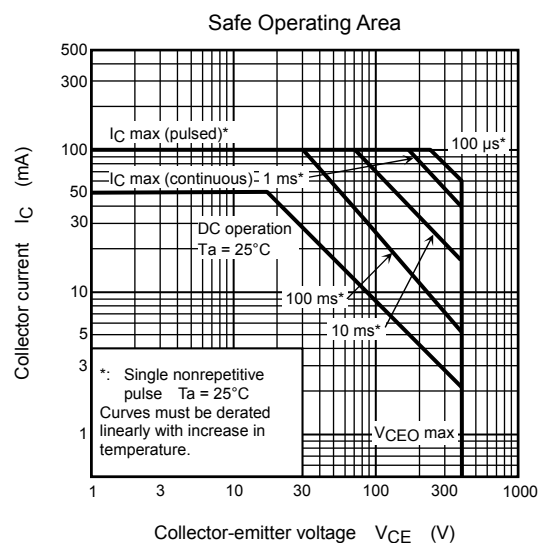
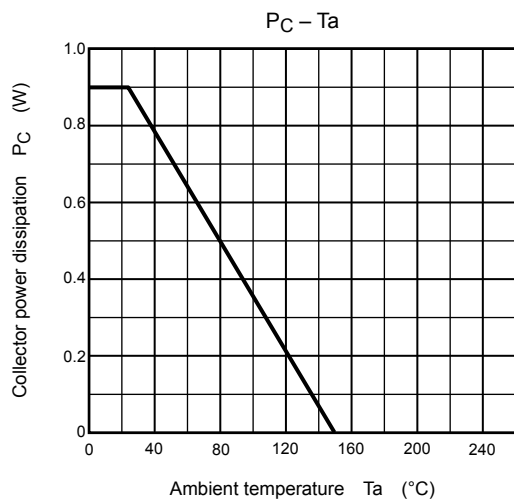
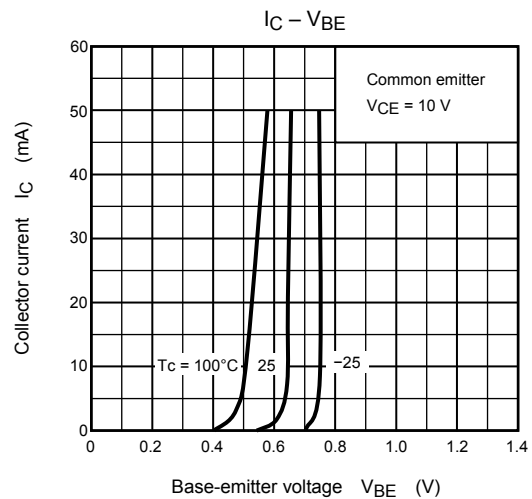
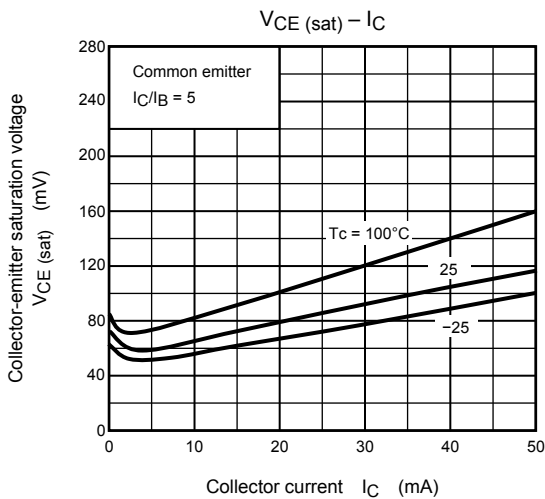
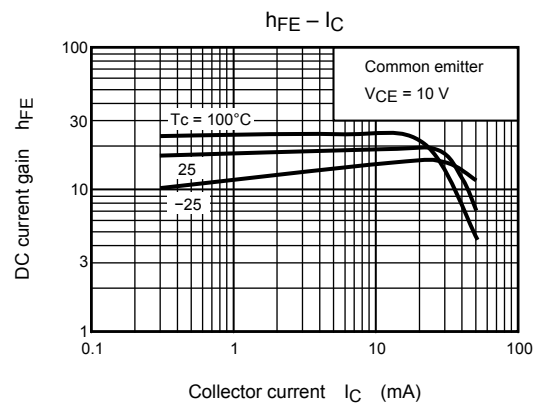
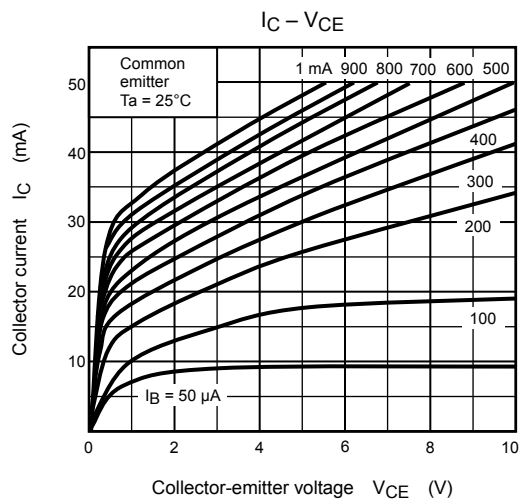


Note2: A line under a Lot No. identifies the indication of product Labels.

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.



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