

TOSHIBA Transistor Silicon NPN Triple Diffused Mesa Type

2SC5201

High-Voltage Switching Applications

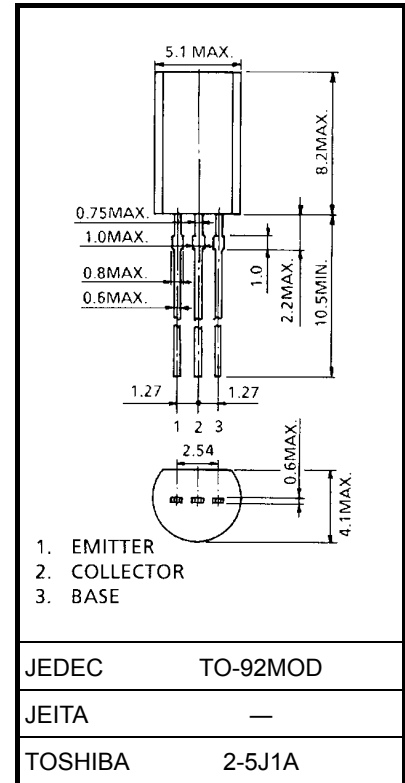
Unit: mm

- High breakdown voltage: $V_{CEO} = 600\text{ V}$
- Low saturation voltage: $V_{CE(sat)} = 1.0\text{ V (max)}$
($I_C = 20\text{ mA}$, $I_B = 0.5\text{ mA}$)

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

Characteristics		Symbol	Rating	Unit
Collector-base voltage		V_{CBO}	600	V
Collector-emitter voltage		V_{CEO}	600	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	$^\circ\text{C}$
Storage temperature range		T_{stg}	-55 to 150	$^\circ\text{C}$

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).

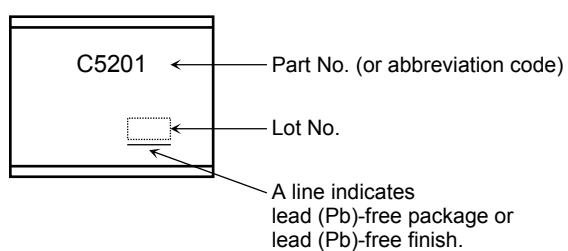


Weight: 0.36 g (typ.)

Electrical Characteristics (Ta = 25°C)

Characteristics	Symbol	Test Condition	Min	Typ.	Max	Unit
Collector cut-off current	I_{CBO}	$V_{CB} = 600\text{ V}, I_E = 0$	—	—	1	μA
Emitter cut-off current	I_{EBO}	$V_{EB} = 7\text{ V}, I_C = 0$	—	—	1	μA
Collector-emitter breakdown voltage	V_{CEO}	$I_C = 1\text{ mA}, I_B = 0$	600	—	—	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	$V_{CE} (\text{sat})$	$I_C = 20\text{ mA}, I_B = 0.5\text{ mA}$	—	—	1.0	V
Base-emitter voltage	V_{BE}	$V_{CE} = 5\text{ V}, I_C = 20\text{ mA}$	—	0.66	0.85	V
Collector output capacitance	C_{ob}	$V_{CB} = 10\text{ V}, I_E = 0, f = 1\text{ MHz}$	—	6.5	—	pF

Marking



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20070701-EN

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