**TOSHIBA** 2SC5201

### TOSHIBA TRANSISTOR SILICON NPN TRIPLE DIFFUSED MESA TYPE

# 2 S C 5 2 0 1

#### HIGH VOLTAGE SWITCHING APPLICATIONS

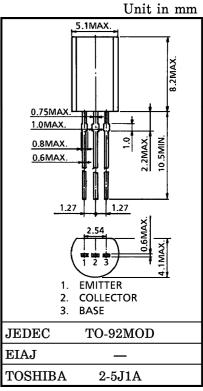
High Voltage :  $V_{CEO} = 600 \text{ V}$ 

Low Saturation Voltage

:  $V_{CE (sat)} = 1.0 \text{ V (Max.)}$  ( $I_{C} = 20 \text{ mA}$ ,  $I_{B} = 0.5 \text{ mA}$ )

## MAXIMUM RATINGS ( $Ta = 25^{\circ}C$ )

CHARACTERISTIC		SYMBOL	RATING	UNIT	
Collector-Base Voltage		$v_{CBO}$	600	V	
Collector-Emitter Voltage	$v_{CEO}$	600	V		
Emitter-Base Voltage		$v_{\rm EBO}$	7	V	
Collector Current	DC	IC	50	mA	
	Pulse	$I_{CP}$	100		
Base Current	$I_{B}$	25	mA		
Collector Power Dissipation		PC	900	mW	
Junction Temperature		$T_{j}$	150	°C	
Storage Temperature Range		$T_{ m stg}$	-55~150	°C	



Weight: 0.36 g

## ELECTRICAL CHARACTERISTICS (Ta = 25°C)

CHARACTERISTIC	SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Collector Cut-off Current	ICBO	$V_{CB} = 600 \text{ V}, I_{E} = 0$	_	_	1	$\mu$ A
Emitter Cut-off Current	$I_{EBO}$	$V_{EB} = 7 V, I_{C} = 0$	_	_	1	$\mu$ A
Collector-Emitter Breakdown Voltage	V <sub>CEO</sub>	$I_{\mathrm{C}}=1\mathrm{mA},~I_{\mathrm{B}}=0$	600	_	_	V
DC Current Gain	h <sub>FE (1)</sub>	$ m V_{CE} = 5~V,~I_{C} = 1~mA$	80	_	_	
	h <sub>FE (2)</sub>	$V_{CE} = 5 V, I_{C} = 20 mA$	100	_	300	
Collector-Emitter Saturation Voltage	V <sub>CE</sub> (sat)	$I_{\rm C} = 20  { m mA}, \; I_{ m B} = 0.5  { m mA}$	_	_	1.0	V
Base-Emitter Voltage	$ m V_{BE}$	$V_{CE} = 5 V, I_{C} = 20 mA$	_	0.66	0.85	V
Collector Output Capacitance	$C_{ m ob}$	$V_{CB} = 10 \text{ V}, \text{ I}_{E} = 0, \text{ f} = 1 \text{ MHz}$		6.5		pF

damage to property. In developing your designs, please ensure that TOSHIBA products are used within specified operating ranges as set forth in the most recent products specifications. Also, please keep in mind the precautions and conditions set forth in the TOSHIBA Semiconductor Reliability Handbook.

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