

TOSHIBA Transistor Silicon NPN Triple Diffused Type

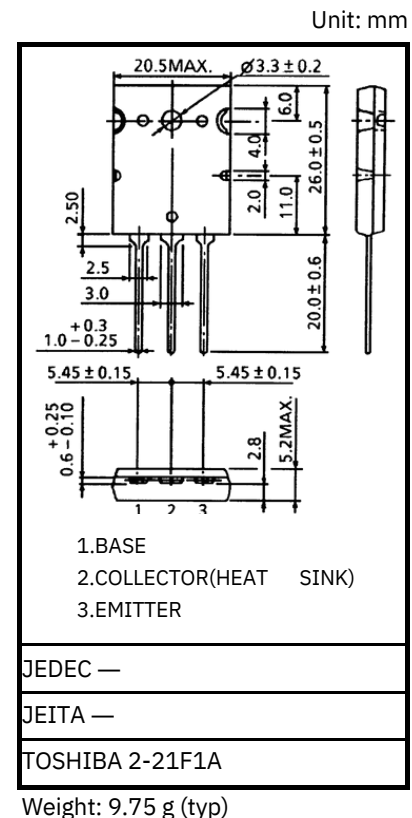
## TTC5200

### ○ Power Amplifier Applications

- High collector voltage:  $V_{CEO} = 230 \text{ V (min)}$
- Complementary to TTA1943
- Recommended for 100-W high-fidelity audio frequency amplifier output stage.

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

Characteristics	Symbol	Rating	Unit
Collector-base voltage	$V_{CBO}$	230	V
Collector-emitter voltage	$V_{CEO}$	230	V
Emitter-base voltage	$V_{EBO}$	5	V
Collector current	$I_C$	15	A
Base current	$I_B$	1.5	A
Collector power dissipation ( $T_c=25^\circ\text{C}$ )	$P_C$	150	W
Junction temperature	$T_j$	150	$^\circ\text{C}$
Storage temperature range	$T_{stg}$	-55 to 150	$^\circ\text{C}$



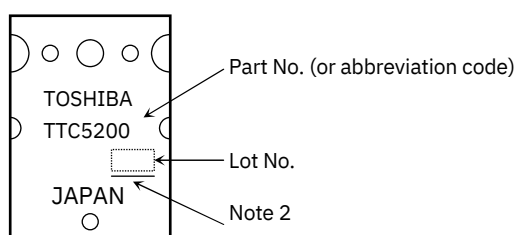
Note 1 : Using continuously under heavy loads (e.g. the application of high temperature/current/voltage and the significant change in temperature, etc.) may cause this product to decrease in the reliability significantly even if the operating conditions (i.e. operating temperature/current/voltage, etc.) 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	$I_{CBO}$	$V_{CB} = 230V, I_E = 0$	—	—	5.0	$\mu A$
Emitter cut-off current	$I_{EBO}$	$V_{EB} = 5V, I_C = 0$	—	—	5.0	$\mu A$
Collector-emitter breakdown voltage	$V_{(BR)CEO}$	$I_C = 50mA, I_B = 0$	230	—	—	V
DC current gain	$h_{FE(1)}$	$V_{CE} = 5V, I_C = 1A$	80	—	160	—
	$h_{FE(2)}$	$V_{CE} = 5V, I_C = 7A$	35	—	—	
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C = 8A, I_B = 0.8A$	—	—	3.0	V
Base-emitter voltage	$V_{BE}$	$V_{CE} = 5V, I_C = 7A$	—	—	1.5	V
Transition frequency	$f_T$	$V_{CE} = 5V, I_C = 1A$	—	30	—	MHz
Collector output capacitance	$C_{ob}$	$V_{CB} = 10V, I_E = 0, f = 1MHz$	—	145	—	pF

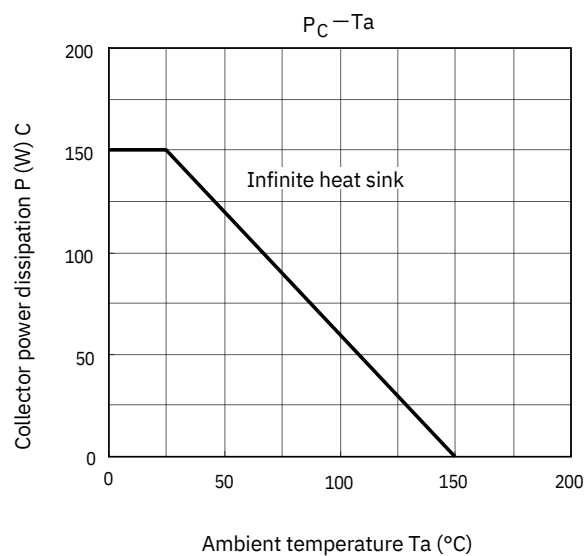
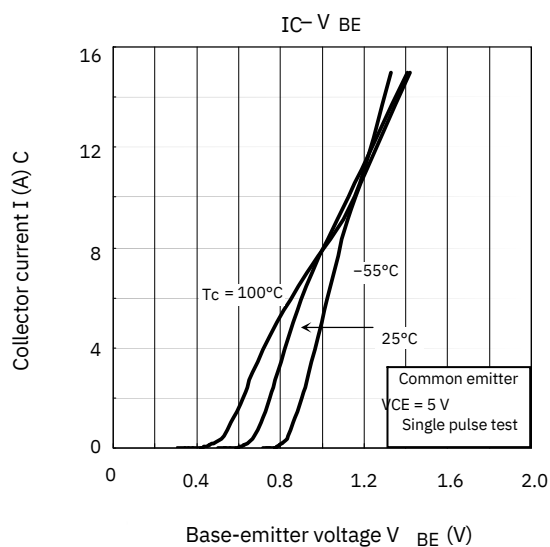
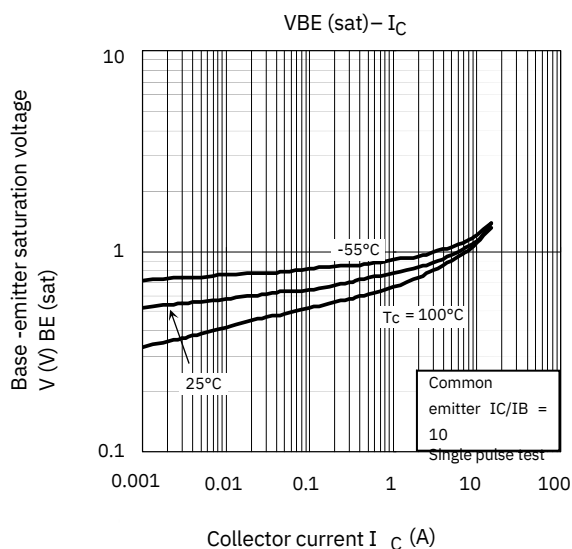
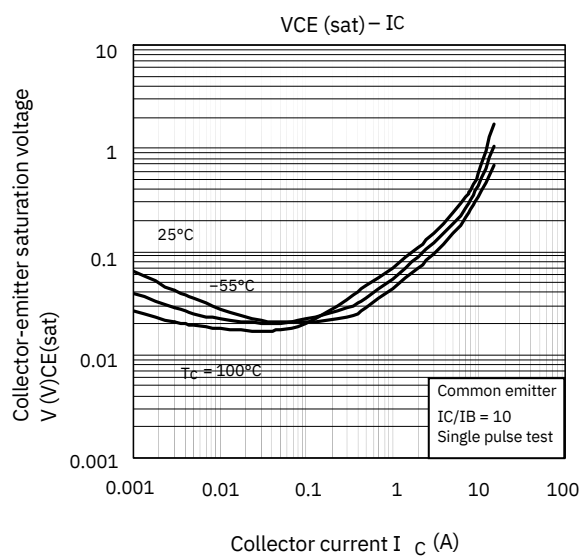
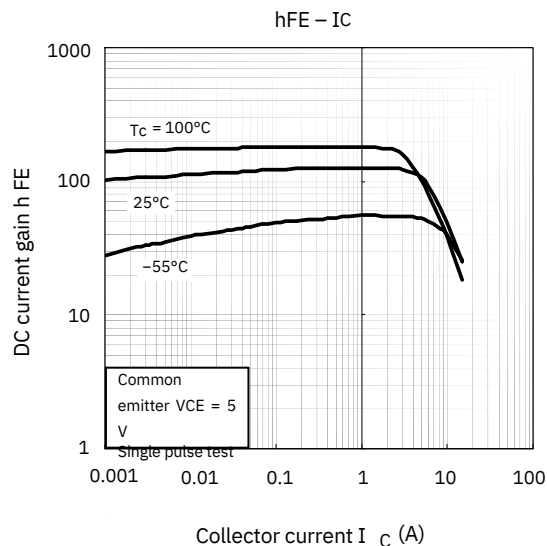
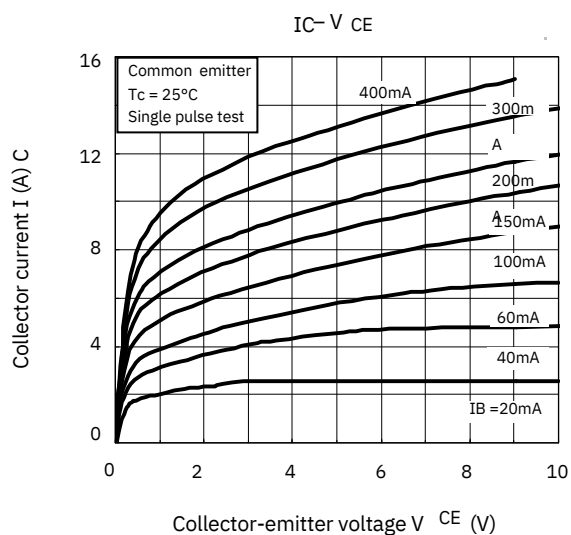
## Marking

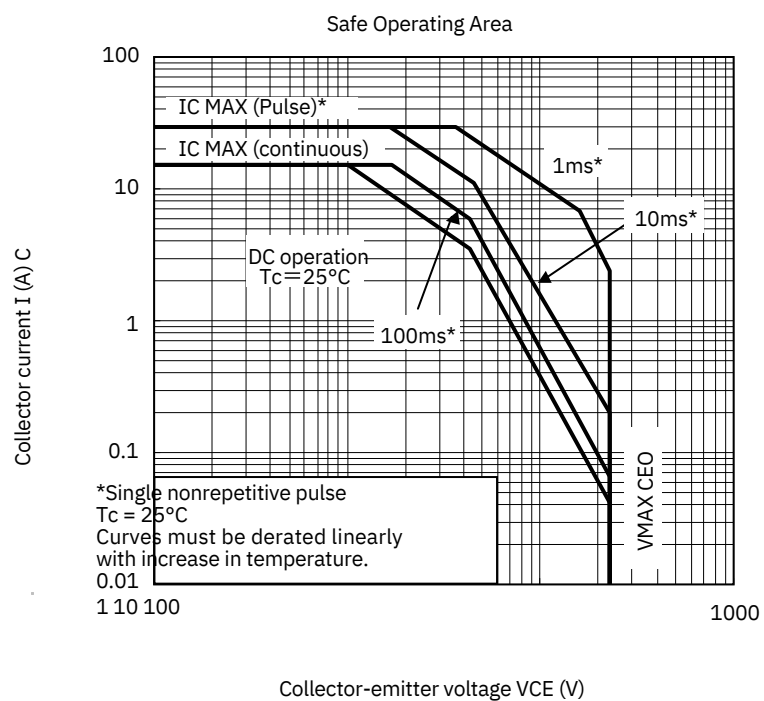
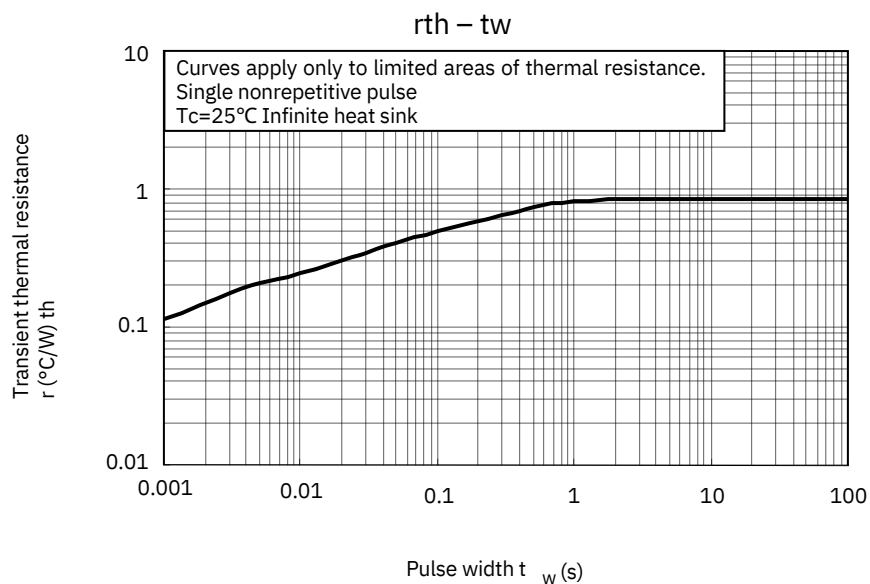


Note 2 : A line under a Lot No. identifies the indication of product Labels.  
 [[G]]/RoHS COMPATIBLE or [[G]]/RoHS [[Pb]]

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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