TOSHIBA Transistor Silicon NPN Triple Diffused Type

# 2SC5359

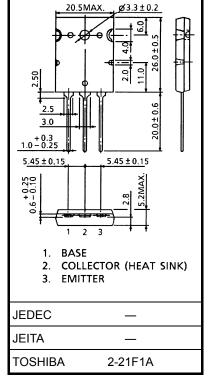
### **Power Amplifier Applications**

Unit: mm

- High breakdown voltage: VCEO = 230 V
- Complementary to 2SA1987
- Suitable for use in 100-W high fidelity audio amplifier's output stage.

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

Characteristics	Symbol	Rating	Unit	
Collector-base voltage	$V_{CBO}$	230	V	
Collector-emitter voltage	V <sub>CEO</sub>	230	V	
Emitter-base voltage	V <sub>EBO</sub>	5	V	
Collector current	Ic	15	Α	
Base current	Ι <sub>Β</sub>	1.5	Α	
Collector power dissipation (Tc = 25°C)	P <sub>C</sub>	180	W	
Junction temperature	Tj	150	°C	
Storage temperature range	T <sub>stg</sub>	-55 to 150	°C	



Weight: 9.75 g (typ.)

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).

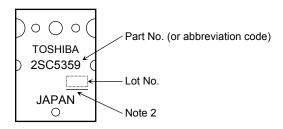


# **Electrical Characteristics (Ta = 25°C)**

Characteristics	Symbol	Test Condition	Min	Тур.	Max	Unit
Collector cut-off current	I <sub>CBO</sub>	V <sub>CB</sub> = 230 V, I <sub>E</sub> = 0	_	_	5.0	μΑ
Emitter cut-off current	I <sub>EBO</sub>	V <sub>EB</sub> = 5 V, I <sub>C</sub> = 0	_	_	5.0	μΑ
Collector-emitter breakdown voltage	V (BR) CEO	I <sub>C</sub> = 50 mA, I <sub>B</sub> = 0	230	_	_	V
DC current gain	h <sub>FE (1)</sub> (Note 1)	V <sub>CE</sub> = 5 V, I <sub>C</sub> = 1 A	55	_	160	
	h <sub>FE</sub> (2)	V <sub>CE</sub> = 5 V, I <sub>C</sub> = 7 A	35	87	_	
Collector-emitter saturation voltage	V <sub>CE</sub> (sat)	I <sub>C</sub> = 8 A, I <sub>B</sub> = 0.8 A	_	0.4	3.0	V
Base-emitter voltage	V <sub>BE</sub>	V <sub>CE</sub> = 5 V, I <sub>C</sub> = 7 A	_	1.0	1.5	V
Transition frequency	f <sub>T</sub>	V <sub>CE</sub> = 5 V, I <sub>C</sub> = 1 A	_	30	_	MHz
Collector output capacitance	C <sub>ob</sub>	V <sub>CB</sub> = 10 V, I <sub>E</sub> = 0, f = 1 MHz	_	200	_	pF

Note 1:h<sub>FE (1)</sub> classification R: 55 to 110, O: 80 to 160

## Marking



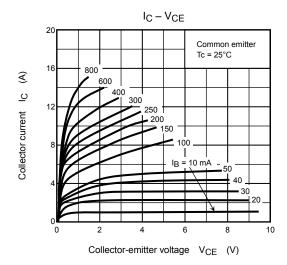
Note 2: A line under a Lot No. identifies the indication of product Labels.

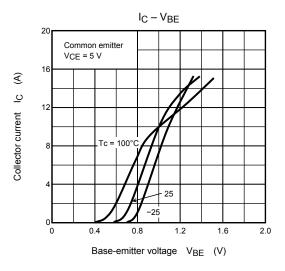
Not underlined : [[Pb]]/INCLUDES > MCV

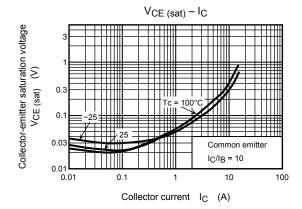
Underlined : [[G]]/RoHS COMPATIBLE or [[G]]/RoHS [[Pb]]

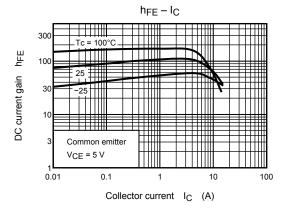
Please contact your TOSHIBA sales representative for details as to environmental matters such as the RoHS compatibility of Product.

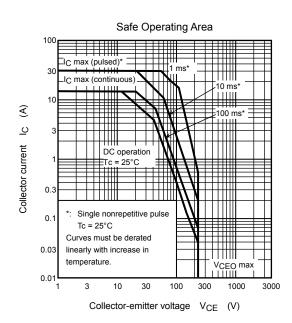
The RoHS is the Directive 2011/65/EU of the European Parliament and of the Council of 8 June 2011 on the restriction of the use of certain hazardous substances in electrical and electronic equipment.











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