

TOSHIBA Transistor    Silicon NPN Triple Diffused Type (Darlington power transistor)

2SD2387

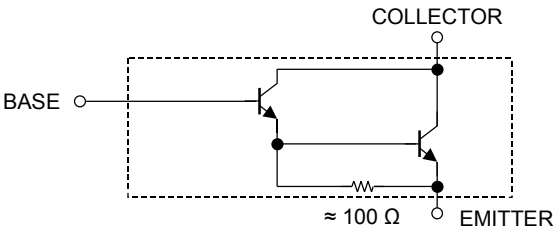
Power Amplifier Applications

- High breakdown voltage:  $V_{CEO} = 140\text{ V (min)}$
- Complementary to 2SB1558

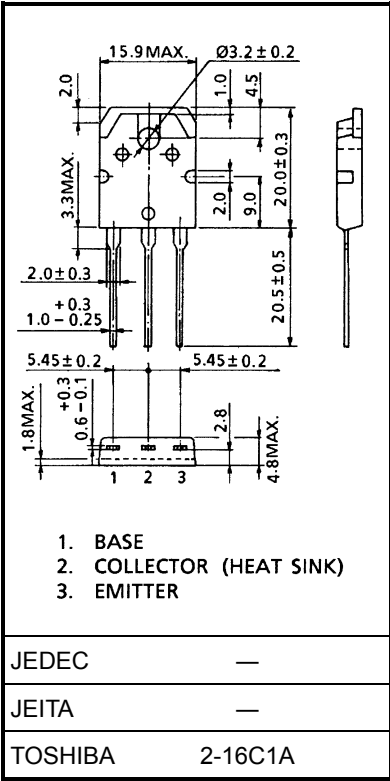
Maximum Ratings ( $T_a = 25^{\circ}\text{C}$ )

Characteristics	Symbol	Rating	Unit
Collector-base voltage	$V_{CBO}$	140	V
Collector-emitter voltage	$V_{CEO}$	140	V
Emitter-base voltage	$V_{EBO}$	5	V
Collector current	$I_C$	8	A
Base current	$I_B$	0.1	A
Collector power dissipation ( $T_c = 25^{\circ}\text{C}$ )	$P_C$	80	W
Junction temperature	$T_j$	150	$^{\circ}\text{C}$
Storage temperature range	$T_{stg}$	-55 to 150	$^{\circ}\text{C}$

Equivalent Circuit



Unit: mm



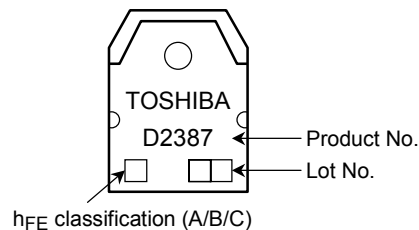
Weight: 4.7 g (typ.)

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

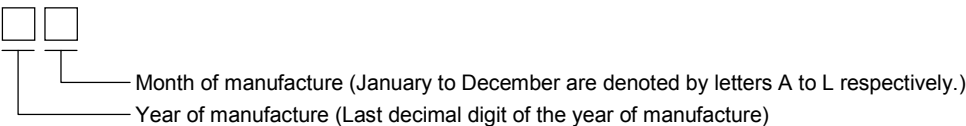
Characteristics	Symbol	Test Condition	Min	Typ.	Max	Unit
Collector cut-off current	$I_{CBO}$	$V_{CB} = 140\text{ V}, I_E = 0$	—	—	5.0	$\mu\text{A}$
Emitter cut-off current	$I_{EBO}$	$V_{EB} = 5\text{ V}, I_C = 0$	—	—	5.0	$\mu\text{A}$
Collector-emitter breakdown voltage	$V_{(BR)CEO}$	$I_C = 50\text{ mA}, I_B = 0$	140	—	—	V
DC current gain	$h_{FE(1)}$ (Note)	$V_{CE} = 5\text{ V}, I_C = 7\text{ A}$	5000	—	30000	
	$h_{FE(2)}$	$V_{CE} = 5\text{ V}, I_C = 12\text{ A}$	2000	—	—	
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C = 7\text{ A}, I_B = 7\text{ mA}$	—	—	2.5	V
Base-emitter voltage	$V_{BE}$	$V_{CE} = 5\text{ V}, I_C = 7\text{ A}$	—	—	3.0	V
Transition frequency	$f_T$	$V_{CE} = 5\text{ V}, I_C = 1\text{ A}$	—	30	—	MHz
Collector output capacitance	$C_{ob}$	$V_{CB} = 10\text{ V}, I_E = 0, f = 1\text{ MHz}$	—	110	—	pF

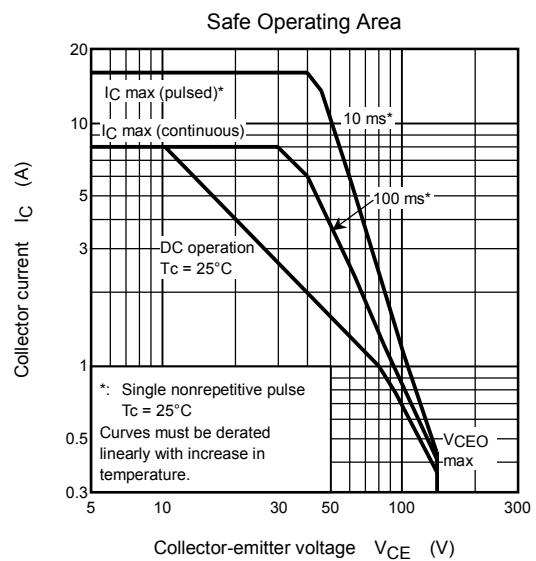
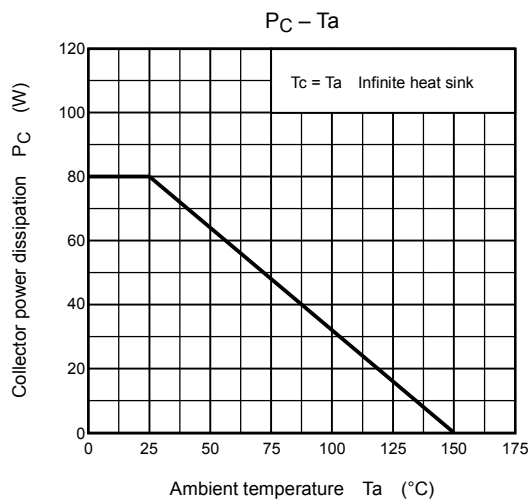
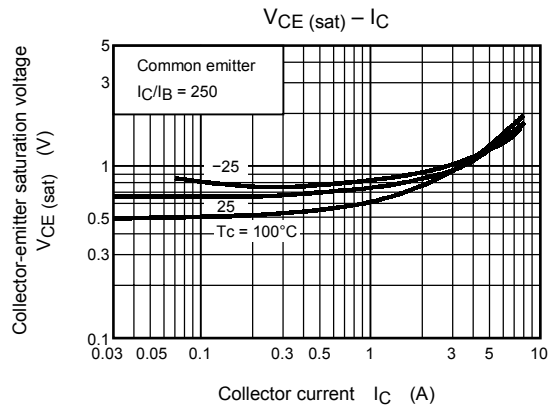
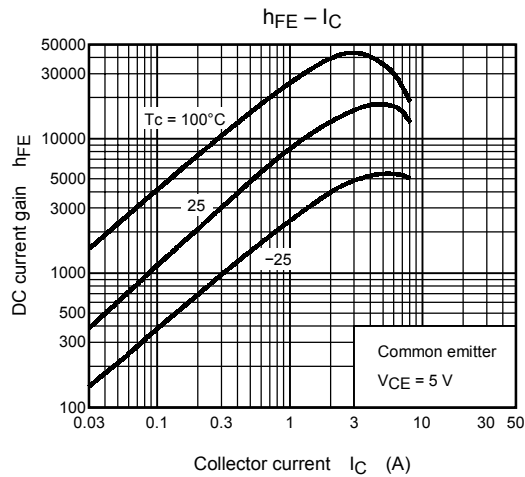
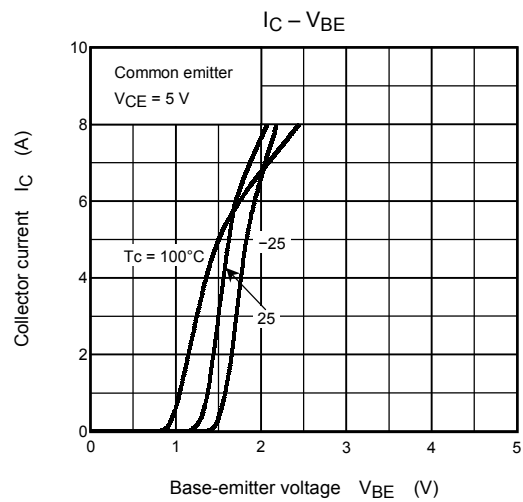
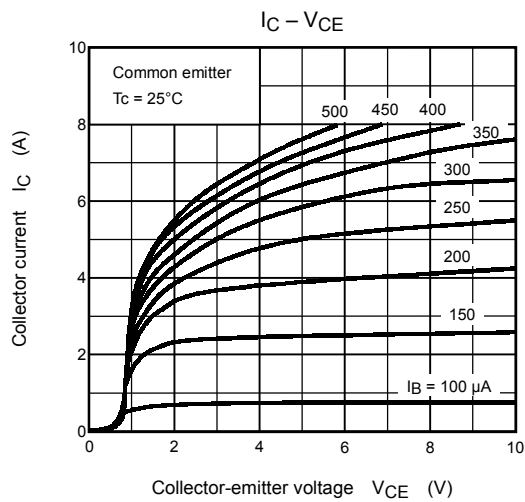
Note:  $h_{FE(1)}$  classification    A: 5000 to 12000, B: 9000 to 18000, C: 15000 to 30000

**Marking**



**Explanation of Lot No.**





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