

TOSHIBA TRANSISTOR SILICON NPN TRIPLE DIFFUSED TYPE (DARLINGTON POWER TRANSISTOR)

2SD2386

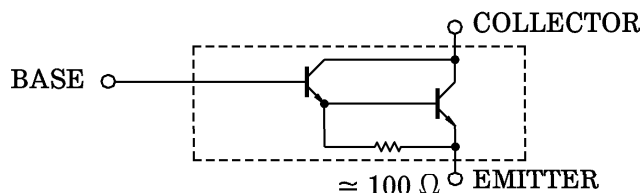
POWER AMPLIFIER APPLICATIONS

- High Breakdown Voltage : $V_{CEO} = 140 \text{ V}$ (Min.)
- Complementary to 2SB1557

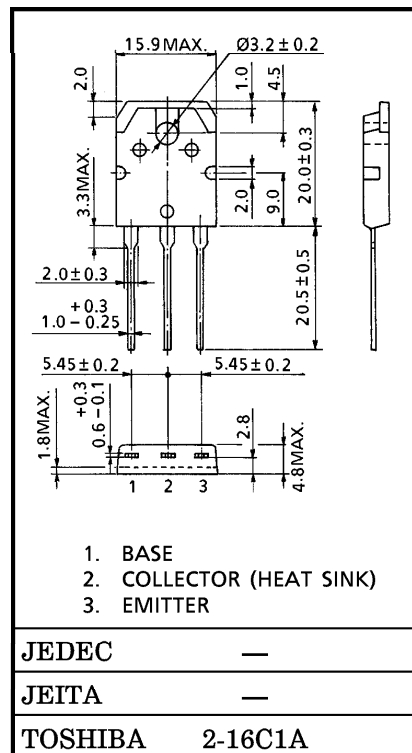
MAXIMUM RATINGS ($T_c = 25^\circ\text{C}$)

CHARACTERISTIC	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	7	A
Base Current	I_B	0.1	A
Collector Power Dissipation ($T_c = 25^\circ\text{C}$)	P_C	70	W
Junction Temperature	T_j	150	$^\circ\text{C}$
Storage Temperature Range	T_{stg}	$-55 \sim 150$	$^\circ\text{C}$

EQUIVALENT CIRCUIT



Unit in mm



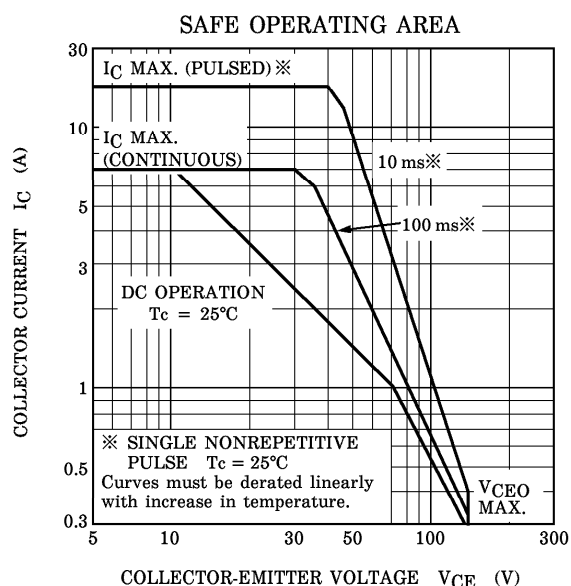
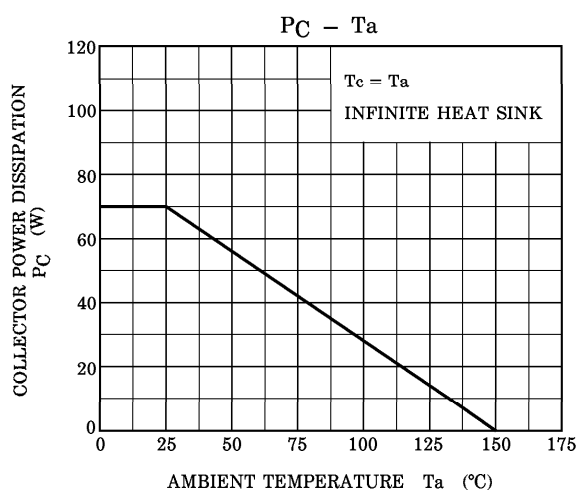
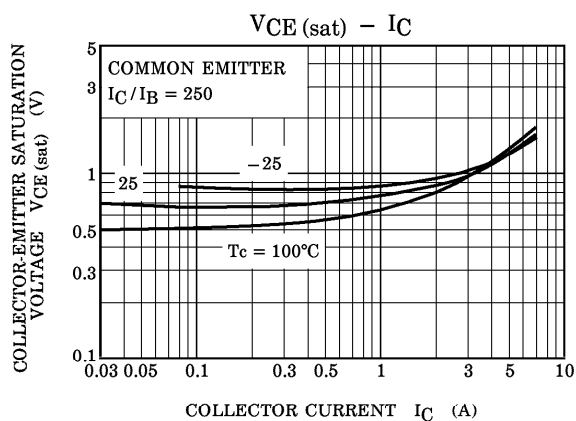
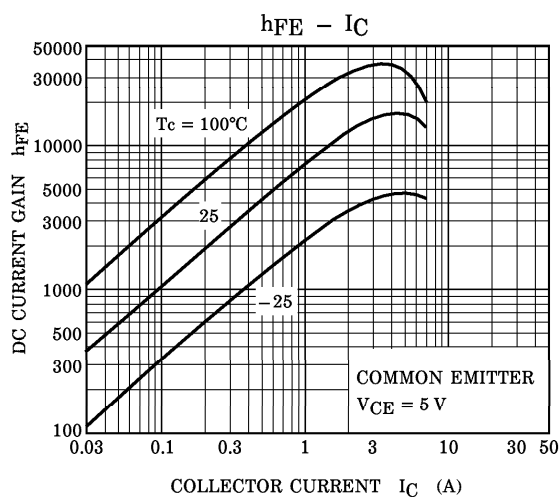
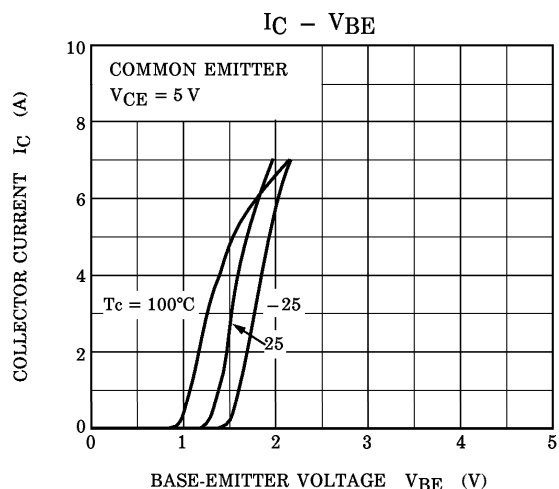
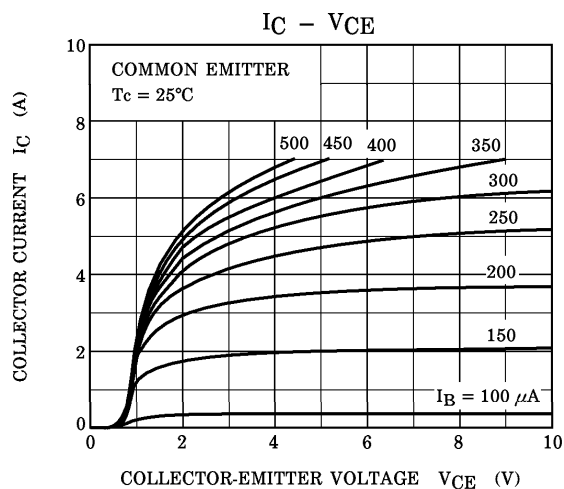
Weight : 4.7 g (Typ.)

ELECTRICAL CHARACTERISTICS ($T_c = 25^\circ\text{C}$)

CHARACTERISTIC	SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Collector Cut-off Current	I_{CBO}	$V_{CB} = 140 \text{ V}, I_E = 0$	—	—	5.0	μA
Emitter Cut-off Current	I_{EBO}	$V_{EB} = 5 \text{ V}, I_C = 0$	—	—	5.0	μA
Collector-Emitter Breakdown Voltage	$V_{(BR)CEO}$	$I_C = 50 \text{ mA}, I_B = 0$	140	—	—	V
DC Current Gain	$h_{FE(1)}$ (Note)	$V_{CE} = 5 \text{ V}, I_C = 6 \text{ A}$	5000	—	30000	
	$h_{FE(2)}$	$V_{CE} = 5 \text{ V}, I_C = 10 \text{ A}$	2000	—	—	
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C = 6 \text{ A}, I_B = 6 \text{ mA}$	—	—	2.5	V
Base-Emitter Voltage	V_{BE}	$V_{CE} = 5 \text{ V}, I_C = 6 \text{ A}$	—	—	3.0	V
Transition Frequency	f_T	$V_{CE} = 5 \text{ V}, I_C = 1 \text{ A}$	—	30	—	MHz
Collector Output Capacitance	C_{ob}	$V_{CB} = 10 \text{ V}, I_E = 0, f = 1 \text{ MHz}$	—	90	—	pF

(Note) : $h_{FE(1)}$ Classification

A : 5000~12000, B : 9000~18000, C : 15000~30000



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