TOSHIBA TRANSISTOR SILICON PNP EPITAXIAL TYPE (DARLINGTON POWER TRANSISTOR)

2SB1594

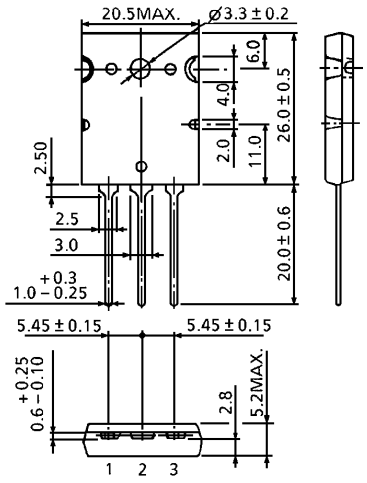
POWER AMPLIFIER APPLICATIONS

- High Breakdown Voltage : $V_{CEO} = -160$ V (Min.)
- Complementary to 2SD2449

MAXIMUM RATINGS (Tc = 25°C)

CHARACTERISTIC	SYMBOL	RATING	UNIT
Collector-Base Voltage	V_{CBO}	−160	V
Collector-Emitter Voltage	V_{CEO}	−160	V
Emitter-Base Voltage	V_{EBO}	−5	V
Collector Current	I_C	−10	A
Base Current	I_B	−1	A
Collector Power Dissipation (Tc = 25°C)	P_C	150	W
Junction Temperature	T_j	150	°C
Storage Temperature Range	T_{stg}	−55~150	°C

Unit in mm

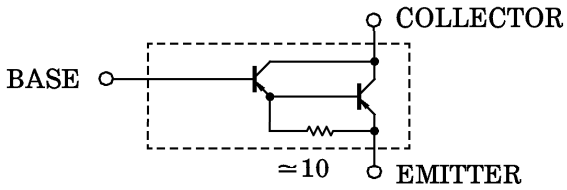


1. BASE
2. COLLECTOR (HEAT SINK)
3. EMITTER

JEDEC	—
JEITA	—
TOSHIBA	2-21FIA

Weight : 9.75 g (Typ.)

EQUIVALENT CIRCUIT

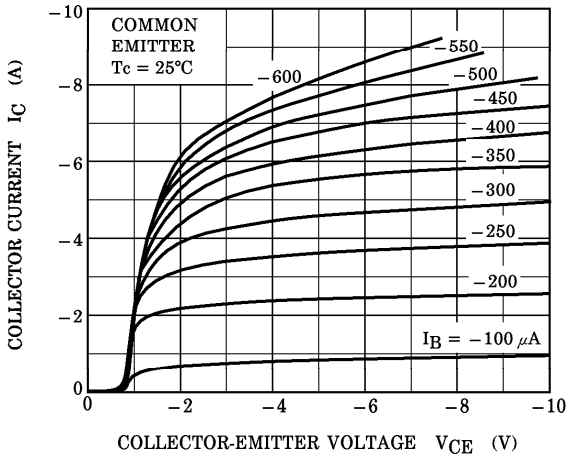


ELECTRICAL CHARACTERISTICS (Tc = 25°C)

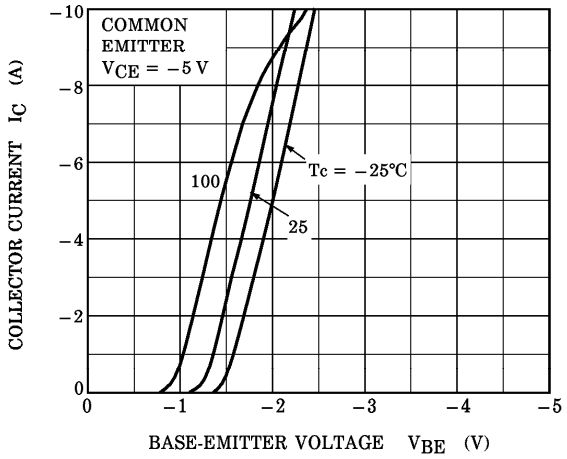
CHARACTERISTIC	SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Collector Cut-off Current	I_{CBO}	$V_{CB} = -160$ V, $I_E = 0$	—	—	−5	μA
Emitter Cut-off Current	I_{EBO}	$V_{EB} = -5$ V, $I_C = 0$	—	—	−5	μA
Collector-Emitter Breakdown Voltage	$V_{(BR)CEO}$	$I_C = -50$ mA, $I_B = 0$	−160	—	—	V
DC Current Gain	$h_{FE(1)}$ (Note)	$V_{CE} = -5$ V, $I_C = -8$ A	3000	—	20000	
	$h_{FE(2)}$	$V_{CE} = -5$ V, $I_C = -12$ A	2000	—	—	
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C = -8$ A, $I_B = -8$ mA	—	—	−3.0	V
Base-Emitter Voltage	V_{BE}	$V_{CE} = -5$ V, $I_C = -8$ A	—	—	−3.0	V
Transition Frequency	f_T	$V_{CE} = -5$ V, $I_C = -1$ A	—	30	—	MHz
Collector Output Capacitance	C_{ob}	$V_{CB} = -10$ V, $I_E = 0$, f = 1 MHz	—	150	—	pF

(Note) : $h_{FE(1)}$ Classification A : 3000~10000, B : 5000~15000, C : 7000~20000

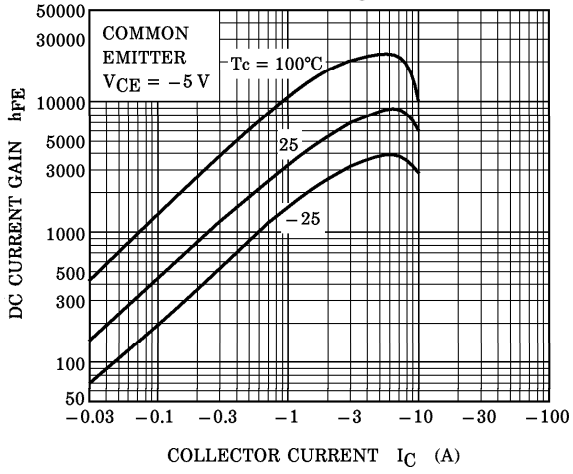
$I_C - V_{CE}$



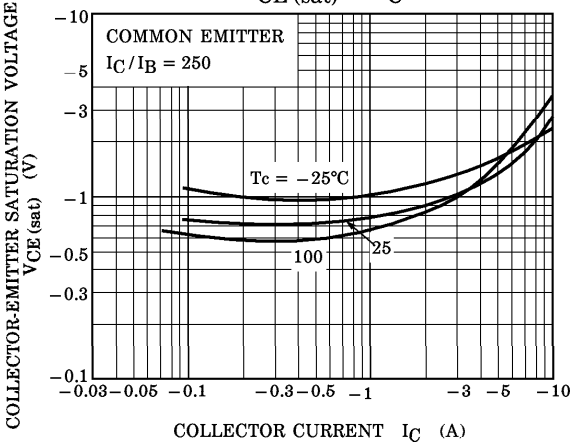
$I_C - V_{BE}$



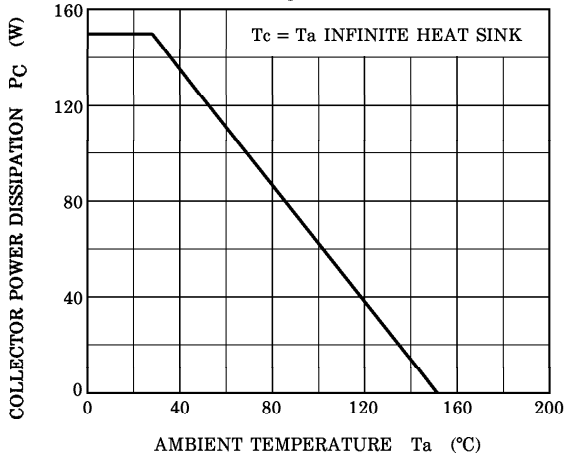
$h_{FE} - I_C$



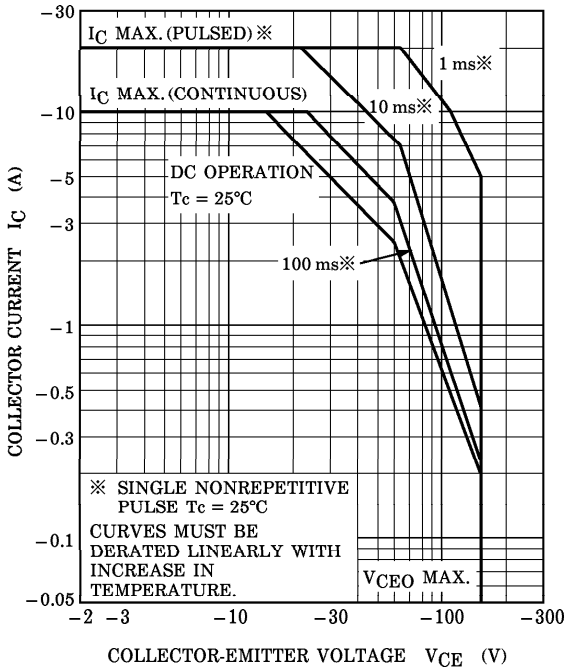
$V_{CE\,(sat)} - I_C$



$P_C - Ta$



SAFE OPERATING AREA



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