TOSHIBA TRANSISTOR SILICON PNP EPITAXIAL TYPE (PCT PROCESS)

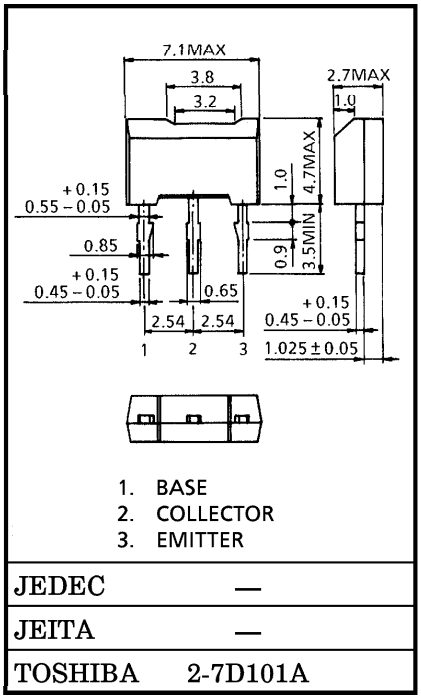
2SA1428

POWER AMPLIFIER APPLICATIONS

POWER SWITCHING APPLICATIONS

- Low Collector Saturation Voltage
  : $V_{CE\ (sat)} = -0.5$ V (Max.) ($I_C = -1$ A)
- High Speed Switching Time : $t_{stg} = 1.0\ \mu$s (Typ.)
- Complementary to 2SC3668.

Unit in mm



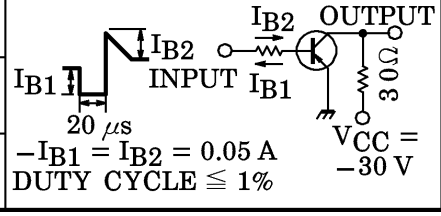
JEDEC	—
JEITA	—
TOSHIBA	2-7D101A

Weight : 0.2 g (Typ.)

MAXIMUM RATINGS (Ta = 25°C)

CHARACTERISTIC	SYMBOL	RATING	UNIT
Collector-Base Voltage	V_{CBO}	−50	V
Collector-Emitter Voltage	V_{CEO}	−50	V
Emitter-Base Voltage	V_{EBO}	−5	V
Collector Current	I_C	−2	A
Collector Power Dissipation	P_C	900	mW
Junction Temperature	T_j	150	°C
Storage Temperature Range	T_{stg}	−55~150	°C

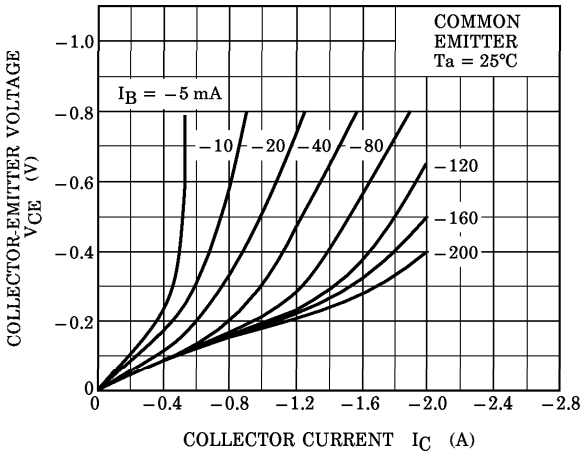
ELECTRICAL CHARACTERISTICS (Ta = 25°C)

CHARACTERISTIC		SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Collector Cut-off Current		I_{CBO}	$V_{CB} = -50$ V, $I_E = 0$	—	—	−1.0	μA
Emitter Cut-off Current		I_{EBO}	$V_{EB} = -5$ V, $I_C = 0$	—	—	−1.0	μA
Collector-Emitter Breakdown Voltage		$V_{(BR)\ CEO}$	$I_C = -10$ mA, $I_B = 0$	−50	—	—	V
DC Current Gain		$h_{FE\ (1)}$	$V_{CE} = -2$ V, $I_C = -0.5$ A (Note)	70	—	240	
		$h_{FE\ (2)}$	$V_{CE} = -2$V, $I_C = -1.5$A	40	—	—	
Collector-Emitter Saturation Voltage		$V_{CE\ (sat)}$	$I_C = -1$ A, $I_B = -0.05$ A	—	—	−0.5	V
Base-Emitter Saturation Voltage		$V_{BE\ (sat)}$	$I_C = -1$ A, $I_B = -0.05$ A	—	—	−1.2	V
Transition Frequency		f_T	$V_{CE} = -2$ V, $I_C = -0.5$ A	—	100	—	MHz
Collector Output Capacitance		C_{ob}	$V_{CB} = -10$ V, $I_E = 0$, f = 1 MHz	—	40	—	pF
Switching Time	Turn-on Time	t_{on}		—	0.1	—	μs
	Storage Time	t_{stg}		—	1.0	—	
	Fall Time	t_f		—	0.1	—	

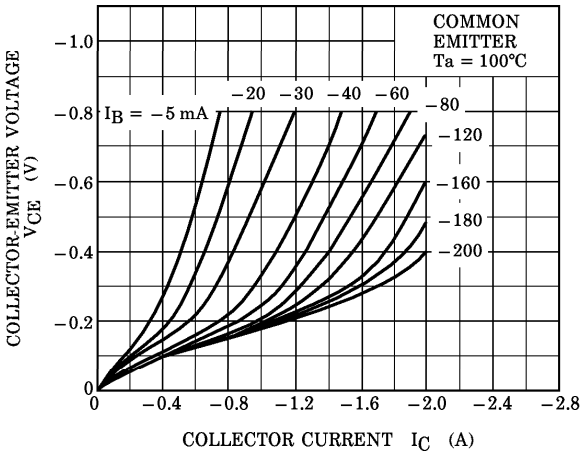
$-I_{B1} = I_{B2} = 0.05$ A
DUTY CYCLE ≦ 1%

(Note) : $h_{FE(1)}$ Classification O : 70~140, Y : 120~240

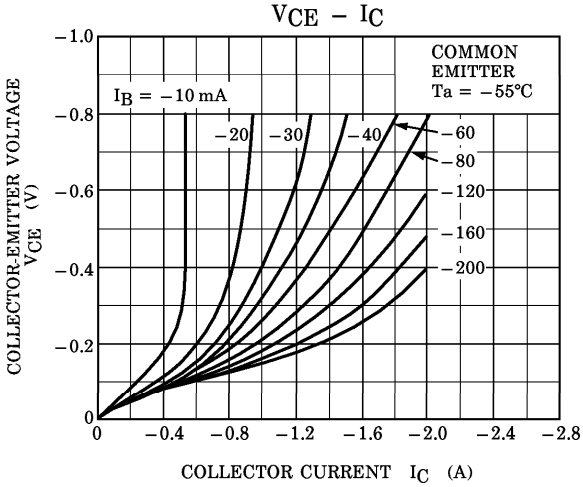
V_{CE} – I_C



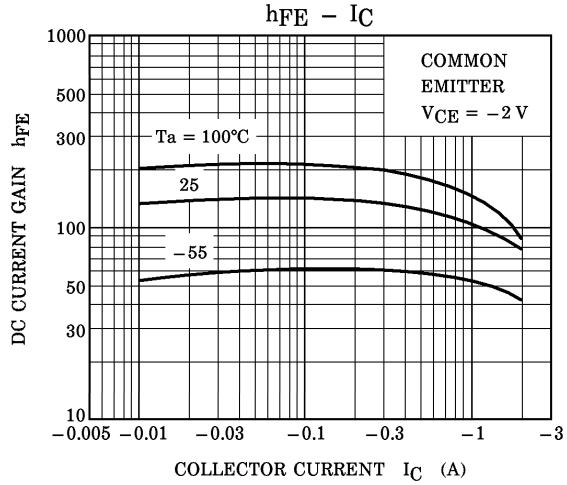
V_{CE} – I_C



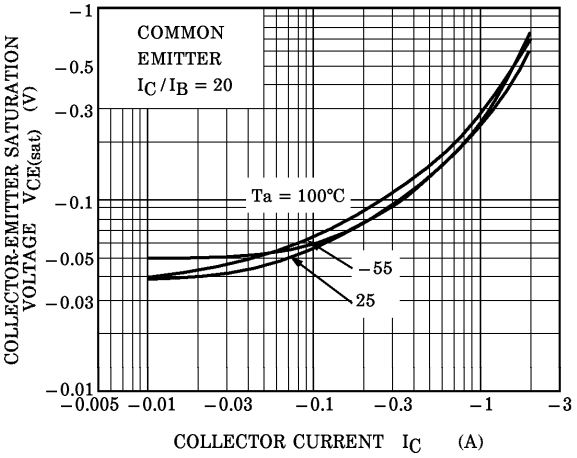
V_{CE} – I_C



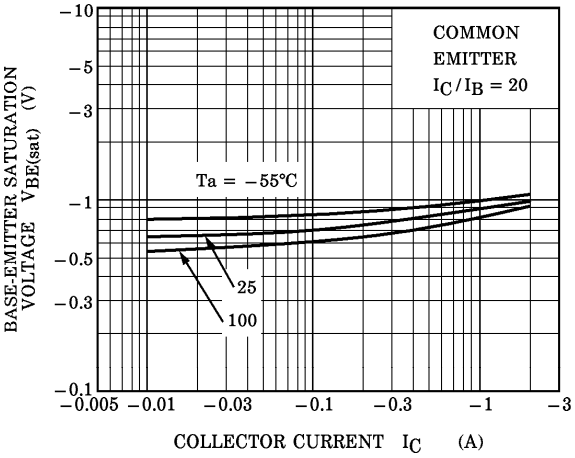
h_{FE} – I_C



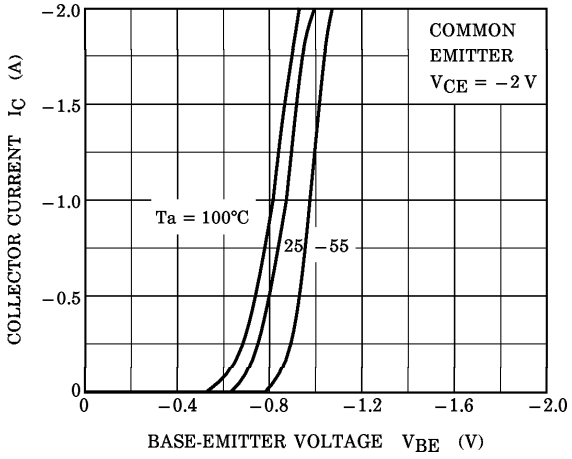
$V_{CE\,(sat)}$ – I_C



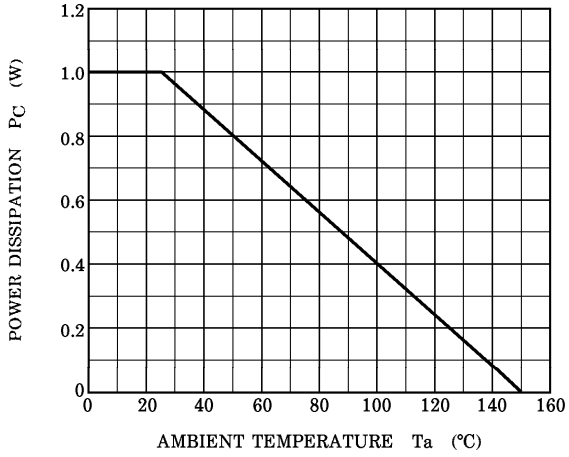
$V_{BE\,(sat)}$ – I_C



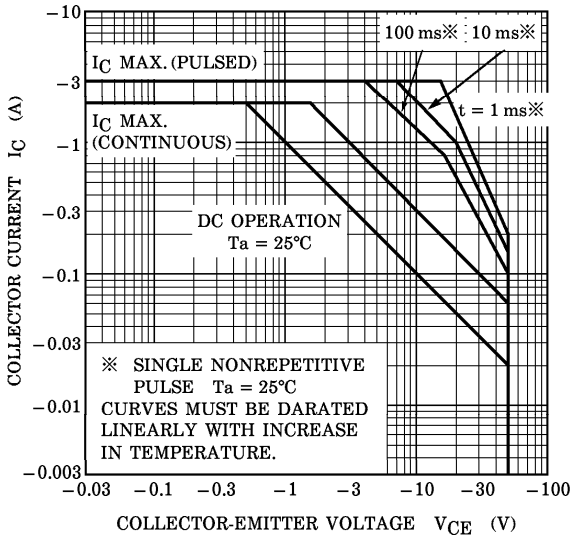
I_C – V_{BE}



P_C – Ta



SAFE OPERATING AREA



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