TOSHIBA TRANSISTOR SILICON PNP EPITAXIAL TYPE (PCT PROCESS)

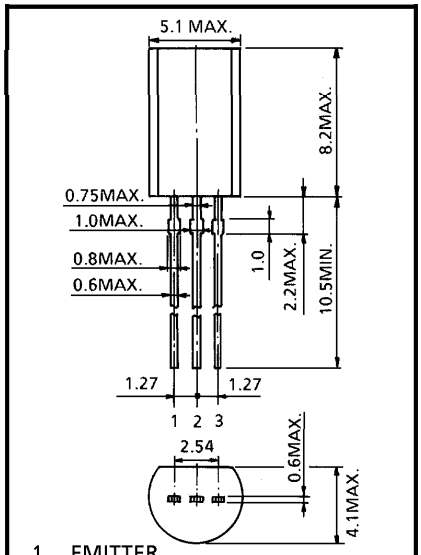
2SA1020

POWER AMPLIFIER APPLICATIONS

POWER SWITCHING APPLICATIONS

- Low Collector Saturation Voltage
  : $V_{CE(sat)} = -0.5V$ (Max.) ($I_C = -1A$)
- High Speed Switching Time : $t_{stg} = 1.0\mu s$ (Typ.)
- Complementary to 2SC2655.

Unit in mm



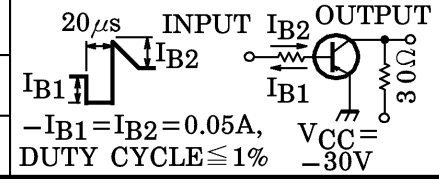
JEDEC	TO-92MOD
JEITA	—
TOSHIBA	2-5J1A

Weight : 0.36g (Typ.)

MAXIMUM RATINGS (Ta = 25°C)

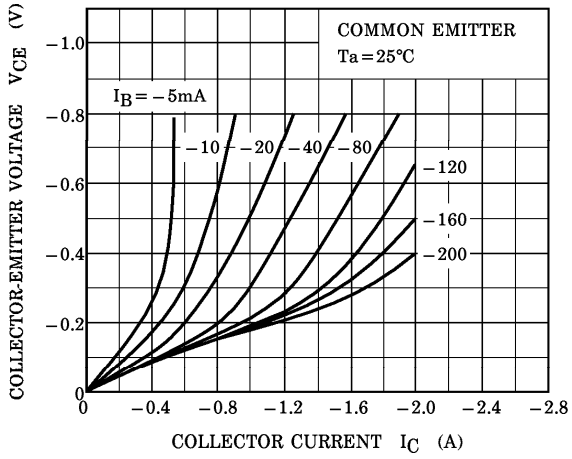
CHARACTERISTIC	SYMBOL	RATING	UNIT
Collector-Base Voltage	V_{CBO}	−50	V
Collector-Emitter Voltage	V_{CEO}	−50	V
Emitter-Base Voltage	V_{EBO}	−5	V
Collector Current	I_C	−2	A
Collector Power Dissipation	P_C	900	mW
Junction Temperature	T_j	150	°C
Storage Temperature Range	T_{stg}	−55~150	°C

ELECTRICAL CHARACTERISTICS (Ta = 25°C)

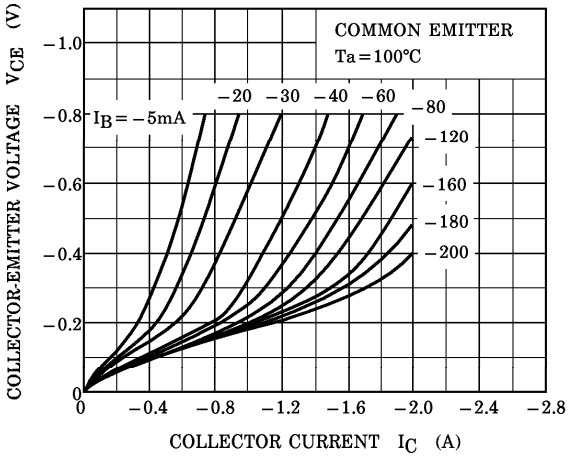
CHARACTERISTIC		SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Collector Cut-off Current		I_{CBO}	$V_{CB} = -50V$, $I_E = 0$	—	—	−1.0	μA
Emitter Cut-off Current		I_{EBO}	$V_{EB} = -5V$, $I_C = 0$	—	—	−1.0	μA
Collector-Emitter Breakdown Voltage		$V_{(BR)CEO}$	$I_C = -10mA$, $I_B = 0$	−50	—	—	V
DC Current Gain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

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

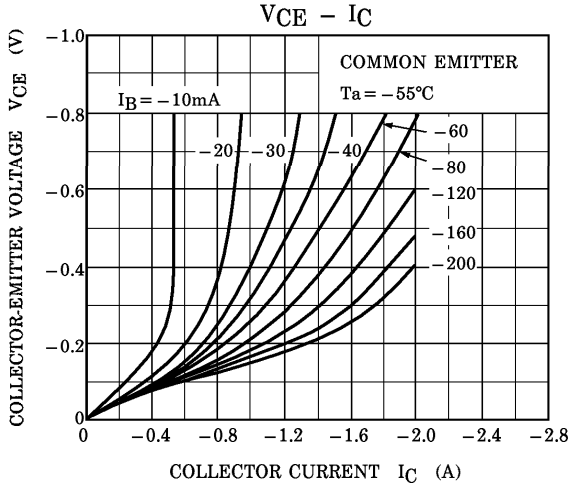
V_{CE} – I_C



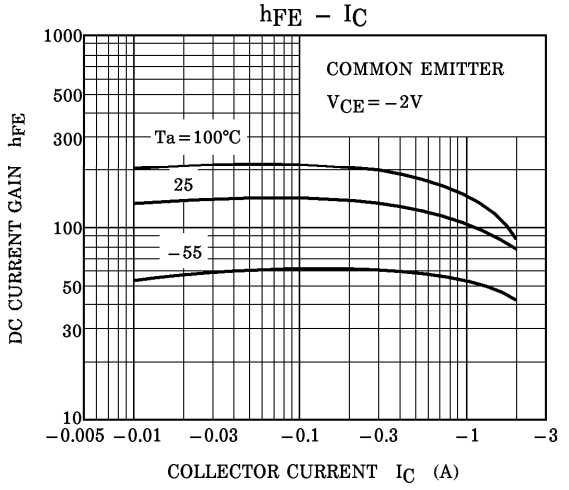
V_{CE} – I_C



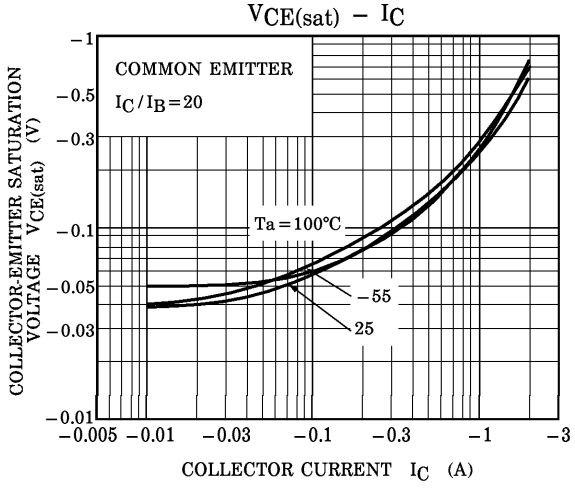
V_{CE} – I_C



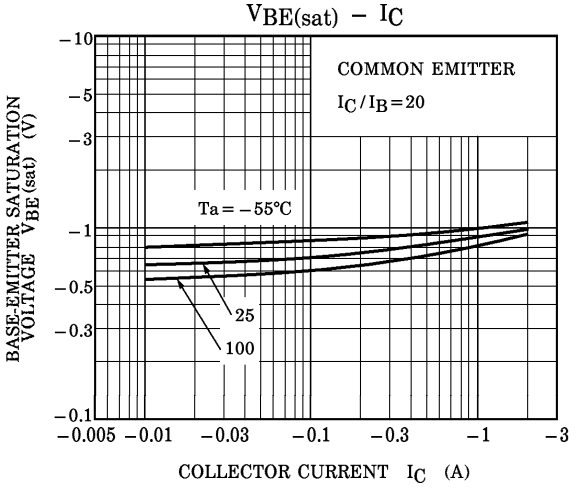
h_{FE} – I_C



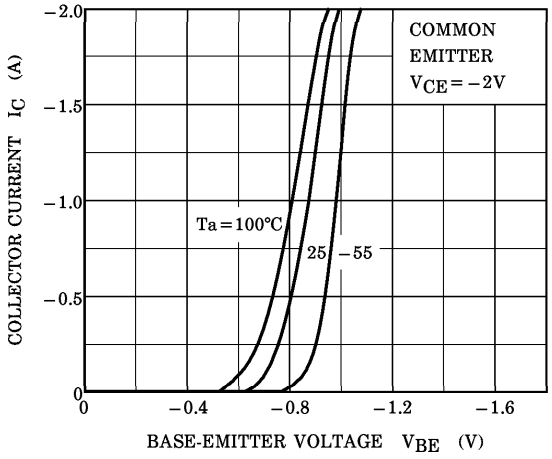
$V_{CE(sat)}$ – I_C



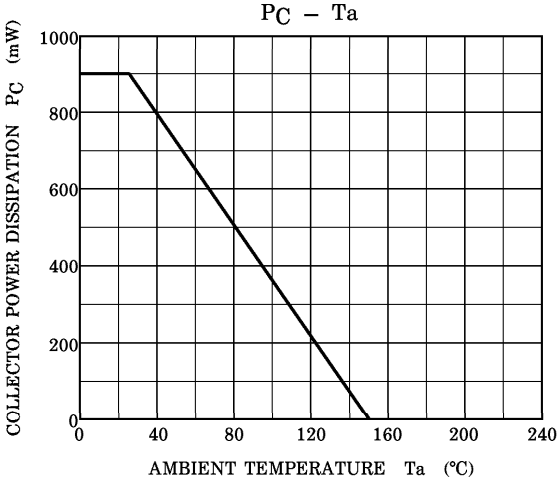
$V_{BE(sat)}$ – I_C



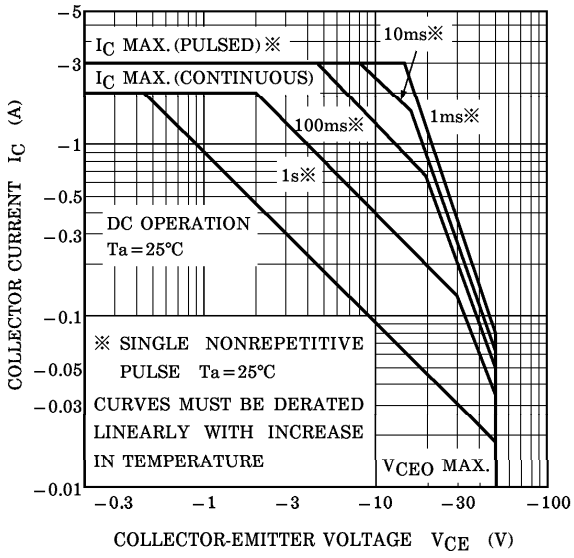
I_C – V_{BE}



P_C – Ta



SAFE OPERATION AREA



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