

TOSHIBA TRANSISTOR SILICON PNP EPITAXIAL TYPE (PCT PROCESS)

2SA1020

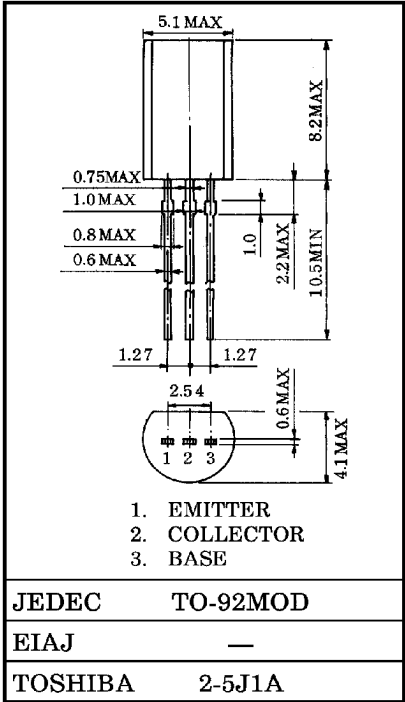
POWER AMPLIFIER APPLICATIONS.
POWER SWITCHING APPLICATIONS.

INDUSTRIAL APPLICATIONS
Unit in mm

- 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.

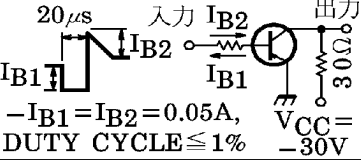
MAXIMUM RATINGS (Ta = 25°C)

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)

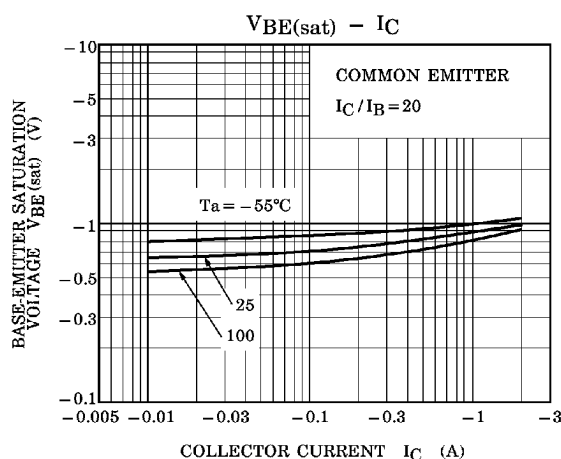
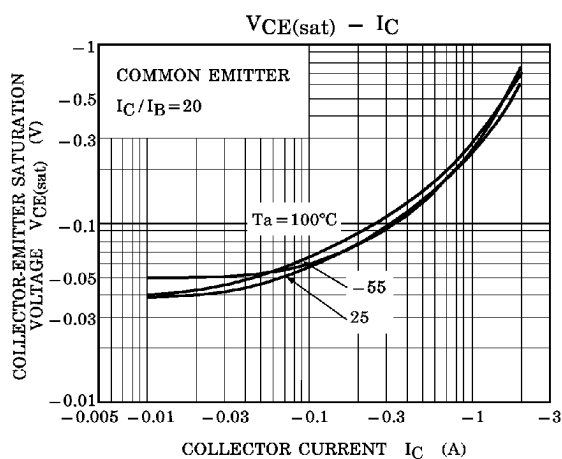
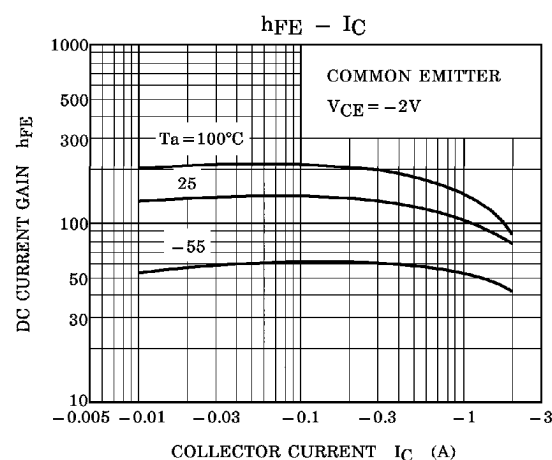
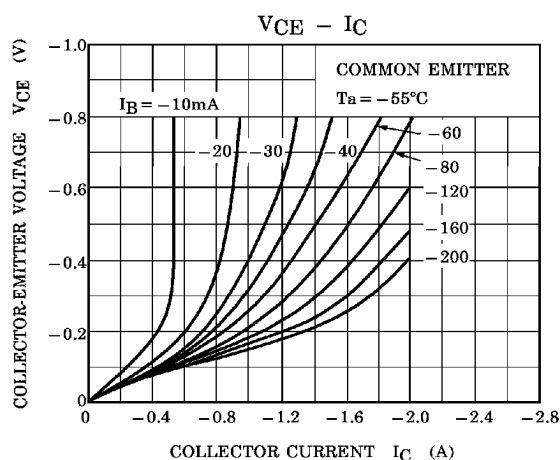
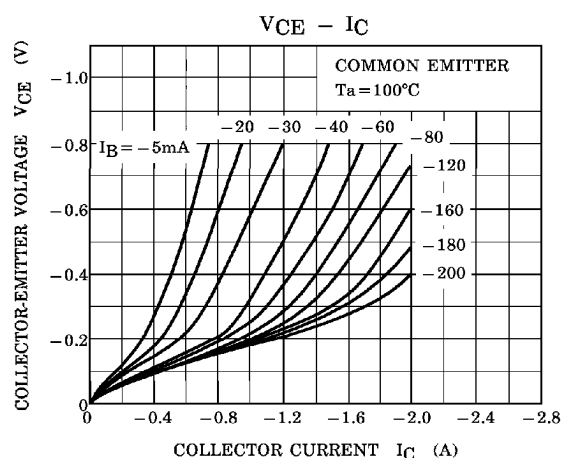
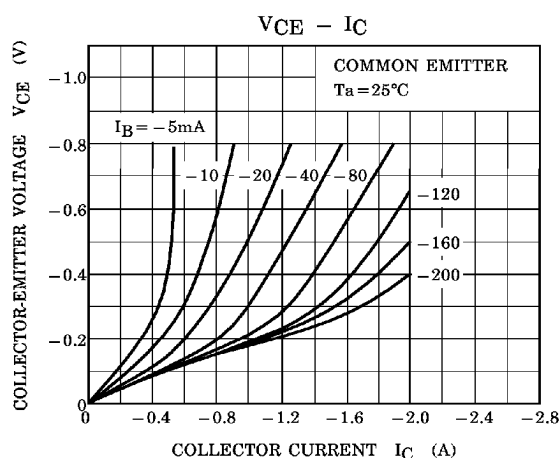
Weight : 0.36g

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		—	0.1	—	μs
	Storage Time		—	1.0	—	
	Fall Time		—	0.1	—	

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

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