

TOSHIBA TRANSISTOR SILICON PNP EPITAXIAL TYPE (PCT PROCESS)

# 2SA1020

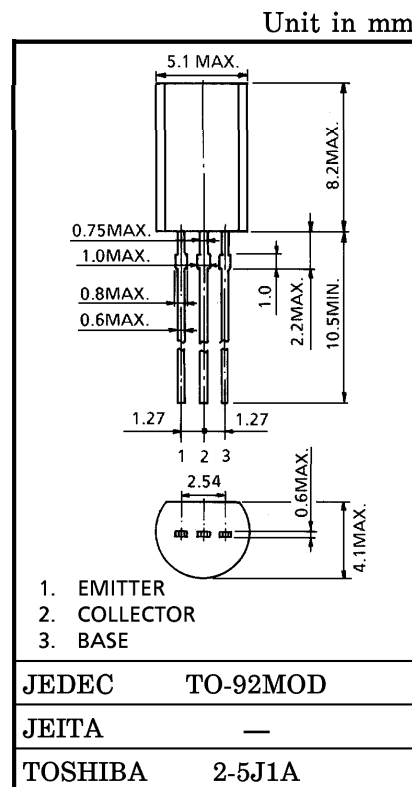
POWER AMPLIFIER APPLICATIONS

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.

MAXIMUM RATINGS ( $T_a = 25^\circ C$ )

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	$^\circ C$
Storage Temperature Range	$T_{stg}$	-55~150	$^\circ C$

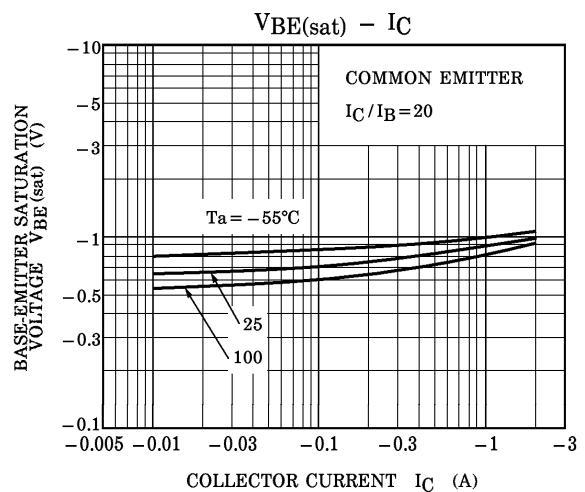
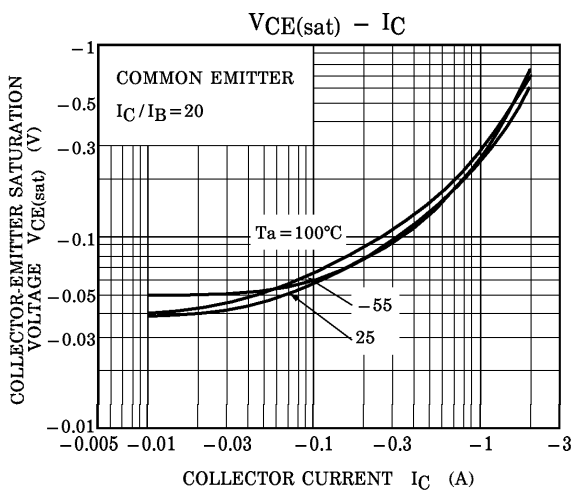
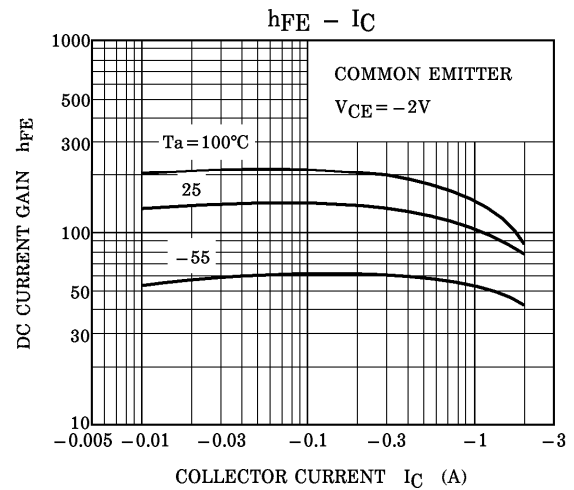
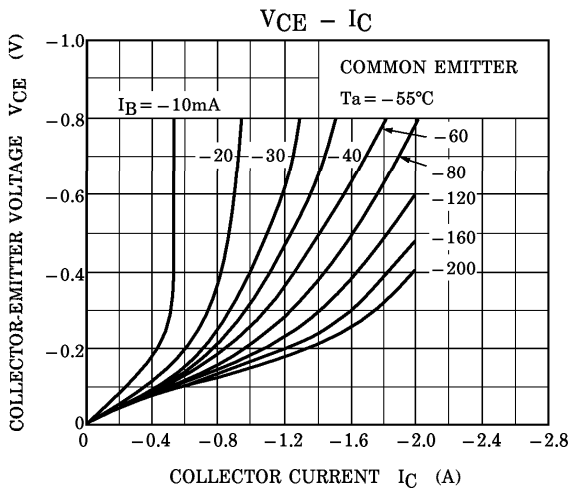
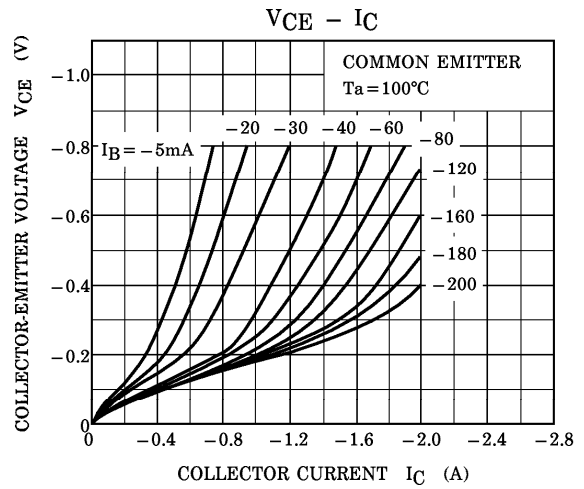
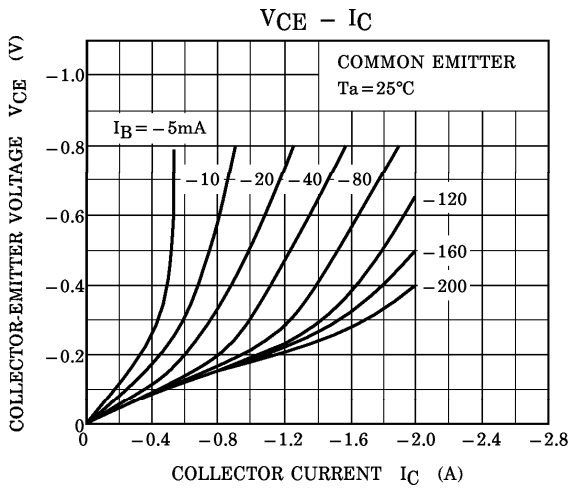


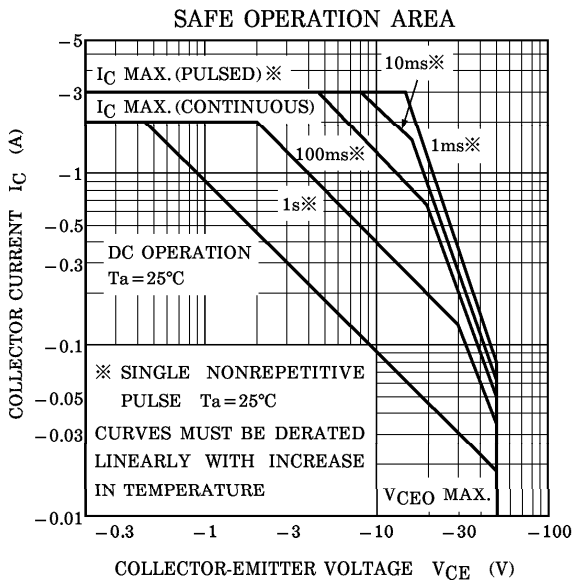
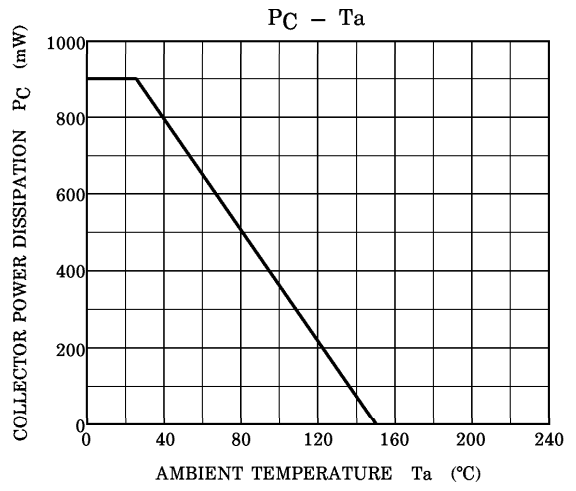
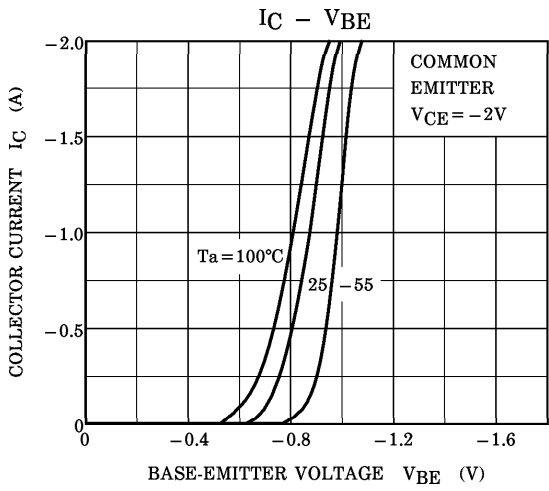
Weight : 0.36g (Typ.)

ELECTRICAL CHARACTERISTICS ( $T_a = 25^\circ C$ )

CHARACTERISTIC	SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT	
Collector Cut-off Current	$I_{CBO}$	$V_{CB} = -50V, I_E = 0$	—	—	-1.0	$\mu A$	
Emitter Cut-off Current	$I_{EBO}$	$V_{EB} = -5V, I_C = 0$	—	—	-1.0	$\mu A$	
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	$t_{on}$					$\mu s$
	Storage Time	$t_{stg}$	—	1.0	—		
	Fall Time	$t_f$	—	0.1	—		

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





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