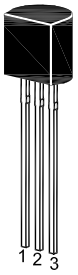
2SA1020

PNP Silicon Epitaxial Transistor

Power amplifier application
Power switching application



1. Emitter 2. Collector 3. Base
TO-92 Plastic Package

Absolute Maximum Ratings (T_a = 25℃)

Parameter	Symbol	Value	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_{tot}	900	mW
Junction Temperature	T_j	150	℃
Storage Temperature Range	T_{stg}	- 55 to + 150	℃

Characteristics at T_a = 25℃

Parameter			Symbol	Min.	Typ.	Max.	Unit
DC Current Gain							
at $-V_{CE}$ = 2 V, $-I_C$ = 0.5 A	Current Gain Group	O	h_{FE}	70	-	140	-
		Y	h_{FE}	120	-	240	-
at $-V_{CE}$ = 2 V, $-I_C$ = 1.5 A			h_{FE}	40	-	-	-
Collector Base Cutoff Current at $-V_{CB}$ = 50 V			$-I_{CBO}$	-	-	1	μA
Emitter Base Cutoff Current at $-V_{EB}$ = 5 V			$-I_{EBO}$	-	-	1	μA
Collector Base Breakdown Voltage at $-I_C$ = 100 μA			$-V_{(BR)CBO}$	50	-	-	V
Collector Emitter Breakdown Voltage at $-I_C$ = 10 mA			$-V_{(BR)CEO}$	50	-	-	V
Emitter Base Breakdown Voltage at $-I_E$ = 10 μA			$-V_{(BR)EBO}$	5	-	-	V
Collector Emitter Saturation Voltage at $-I_C$ = 1 A, $-I_B$ = 0.05 A			$-V_{CE(sat)}$	-	-	0.5	V
Base Emitter Saturation Voltage at $-I_C$ = 1 A, $-I_B$ = 0.05 A			$-V_{BE(sat)}$	-	-	1.2	V
Transition Frequency at $-V_{CE}$ = 2 V, $-I_C$ = 0.5 A			f_T	-	100	-	MHz
Collector Output Capacitance at $-V_{CB}$ = 10 V, f = 1 MHz			C_{ob}	-	40	-	pF

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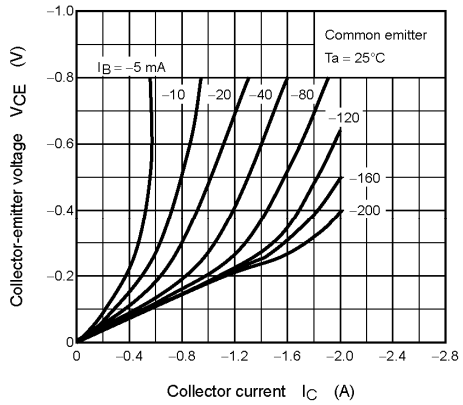
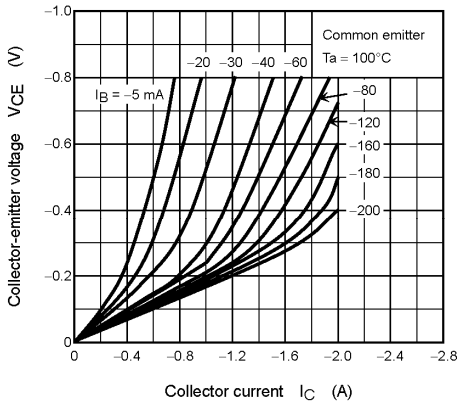
Electrical Characteristics Curves

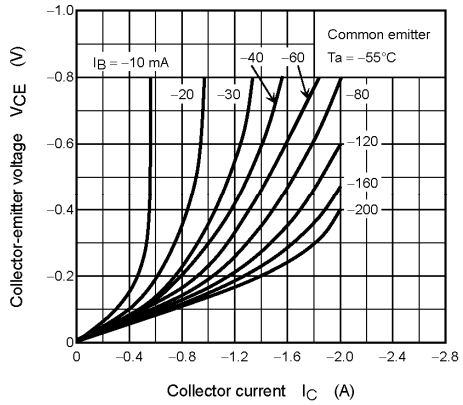
$V_{CE} - I_C$



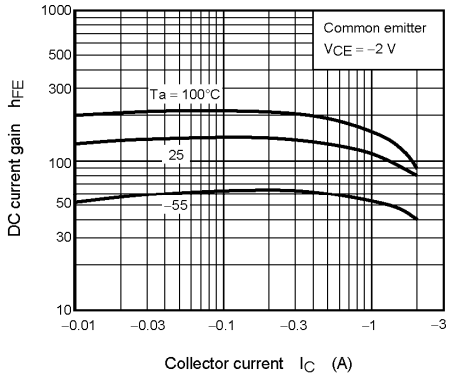
$V_{CE} - I_C$



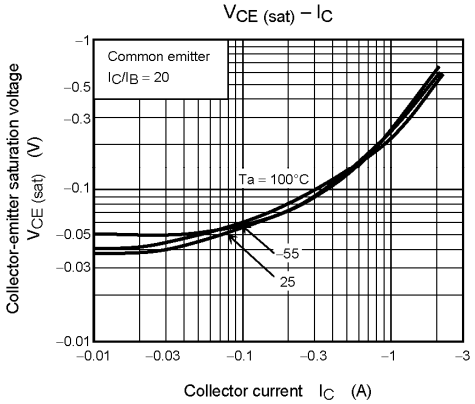
$V_{CE} - I_C$



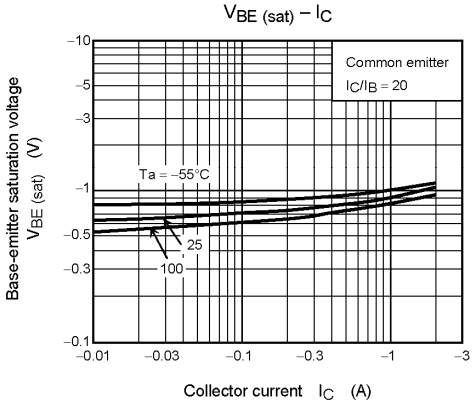
$h_{FE} - I_C$



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



$V_{BE\ (sat)} - I_C$



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