

PNP SILICON TRANSISTOR

SILICON PNP EPITAXIAL TRANSISTOR

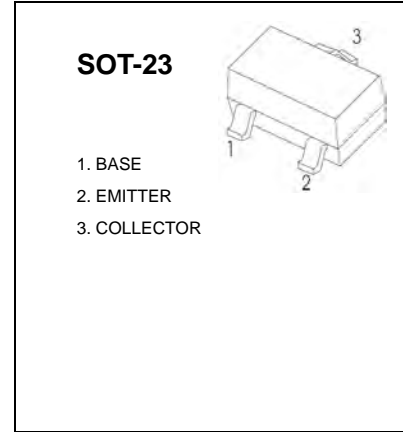
DESCRIPTION

The **2SA1020** is designed for power amplifier and power switching applications.

FEATURES

- *Low collector saturation voltage:
 $V_{CE(SAT)} = -0.5V_{(MAX)}$ ($I_C = -1A$)
- *High speed switching time: $t_{STG} = 1.0\mu s$ (TYP)
- *Complement to 2SC2655

MARKING : 1020

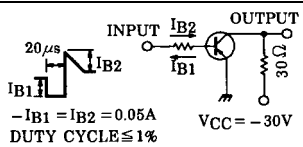


ABSOLUTE MAXIMUM RATINGS ($T_A = 25^\circ C$, unless otherwise specified)

PARAMETER		SYMBOL	RATINGS	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	SOT-23	P_C	300	mW
	SOT-89		500	mW
	TO-92		900	mW
Junction Temperature		T_J	150	$^\circ C$
Storage Temperature		T_{STG}	-55 ~ +150	$^\circ C$

Note: Absolute maximum ratings are those values beyond which the device could be permanently damaged. Absolute maximum ratings are stress ratings only and functional device operation is not implied.

ELECTRICAL CHARACTERISTICS ($T_A = 25^\circ C$, unless otherwise specified)

PARAMETER		SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT
Collector to Emitter Breakdown Voltage		BV_{CEO}	$I_C = -10mA, I_B = 0$	-50			V
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
DC Current Gain		h_{FE1}	$V_{CE} = -2V, I_C = -0.5A$	70		240	
		h_{FE2}	$V_{CE} = -2V, I_C = -1.5A$	40			
Collector to Emitter Saturation Voltage		$V_{CE(SAT)}$	$I_C = -1A, I_B = -0.05A$			-0.5	V
Base to 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}	 <p>20μs INPUT I_{B2} OUTPUT I_{B1} I_{B2} I_{B1} 30Ω VCC = -30V $-I_{B1} = I_{B2} = 0.05A$ DUTY CYCLE $\leq 1\%$</p>		0.1	μs	
	Storage Time	t_{STG}			1.0	μs	
	Fall Time	t_F			0.1	μs	

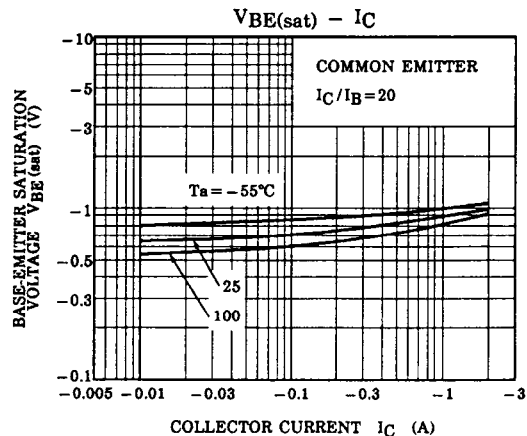
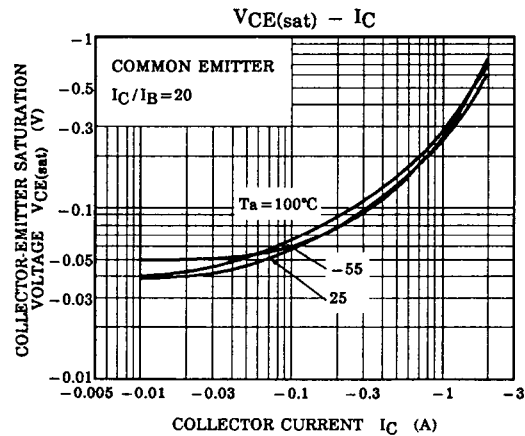
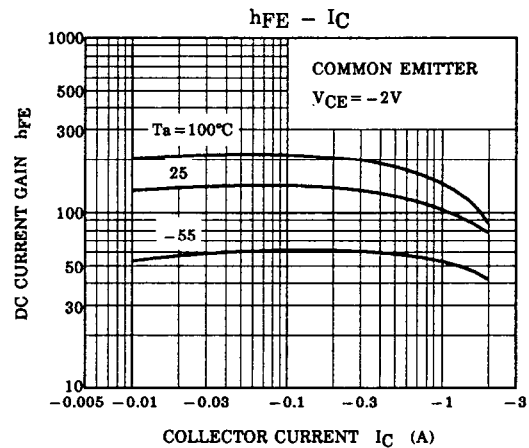
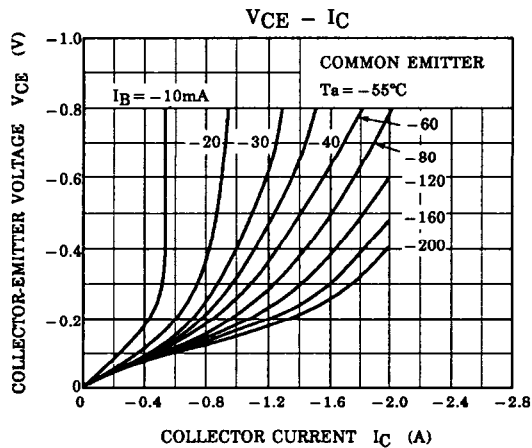
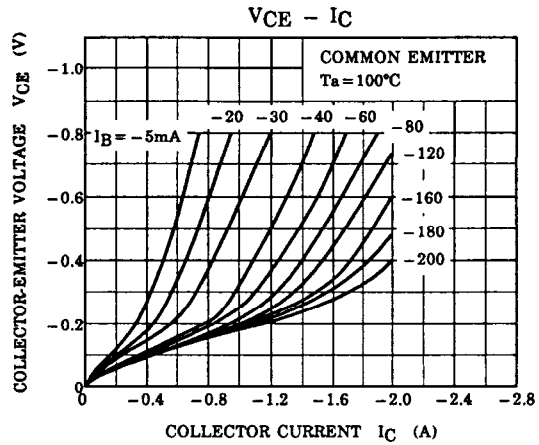
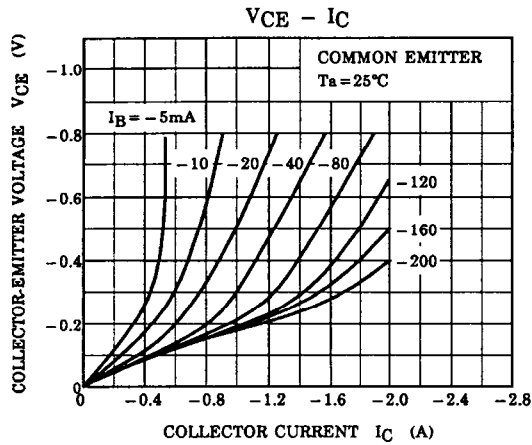
CLASSIFICATION OF h_{FE1}

RANK	O	Y
RANGE	70 - 140	120 - 240

2SA1020

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TYPICAL CHARACTERISTICS



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■ TYPICAL CHARACTERISTICS(Cont.)

