

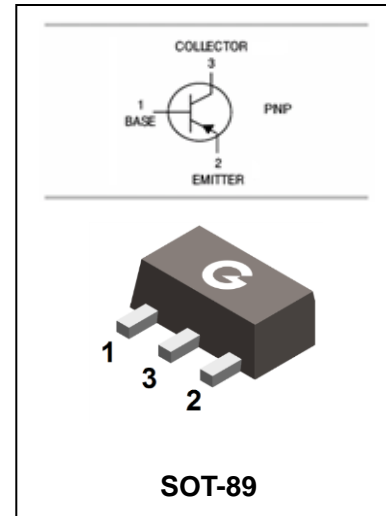
## PNP Epitaxial Silicon Transistor

## 2SA1020

### FEATURES

- Low saturation voltage:  
 $V_{CE(sat)} = -0.5 \text{ V (max) (} I_C = -1 \text{ A)}$
- High-speed switching:  $t_{stg} = 1.0 \mu\text{s (typ.)}$
- Complement to 2SC2655

HF



### APPLICATIONS

- Power and voltage amplifier application

### ORDERING INFORMATION

Type No.	Marking	Package Code
2SA1020	A1020	SOT-89

### MAXIMUM RATING @ $T_a=25^\circ\text{C}$ unless otherwise specified

Symbol	Parameter	Value	Units
$V_{CBO}$	Collector-Base Voltage	-50	V
$V_{CEO}$	Collector-Emitter Voltage	-50	V
$V_{EBO}$	Emitter-Base Voltage	-5	V
$I_C$	Collector Current -Continuous	-2	A
$I_B$	Base current	0.5	A
$P_C$	Collector Power Dissipation	0.5	W
$P_C^*$	Collector Power Dissipation	1	W
$T_j, T_{stg}$	Junction and Storage Temperature	-55 to +150	$^\circ\text{C}$

\* : Mounted on ceramic substrate(  $250\text{mm}^2 \times 0.8\text{t}$  )

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ELECTRICAL CHARACTERISTICS @ Ta=25°C unless otherwise specified

Parameter	Symbol	Test conditions	MIN	TYP	MAX	UNIT
Collector-base breakdown voltage	$V_{(BR)CBO}$	$I_C=-1mA, I_E=0$	-50			V
Collector-emitter breakdown voltage	$V_{(BR)CEO}$	$I_C=-10mA, I_B=0$	-50			V
Emitter-base breakdown voltage	$V_{(BR)EBO}$	$I_E=-1mA, I_C=0$	-5			V
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	$\mu A$
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

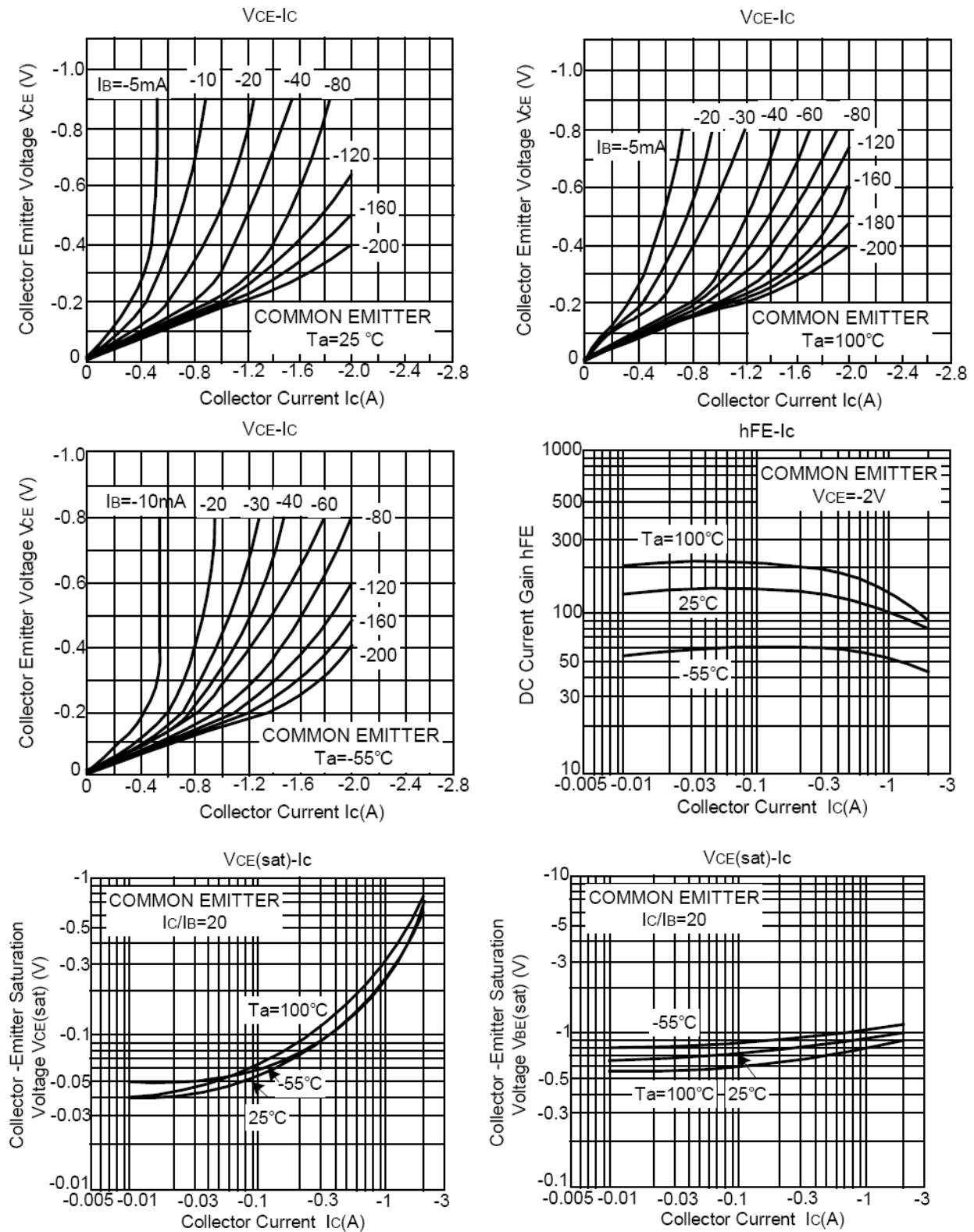
CLASSIFICATION OF  $h_{FE(1)}$

Rank	O	Y
Range	70-140	120-240

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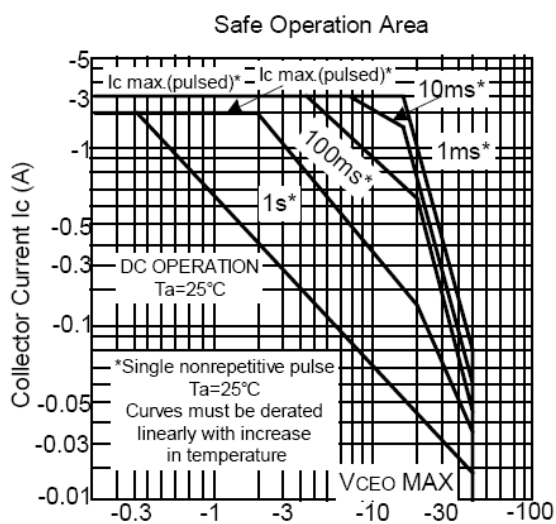
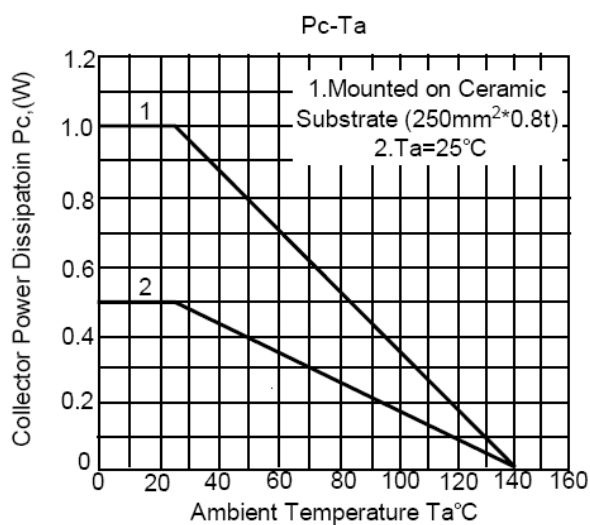
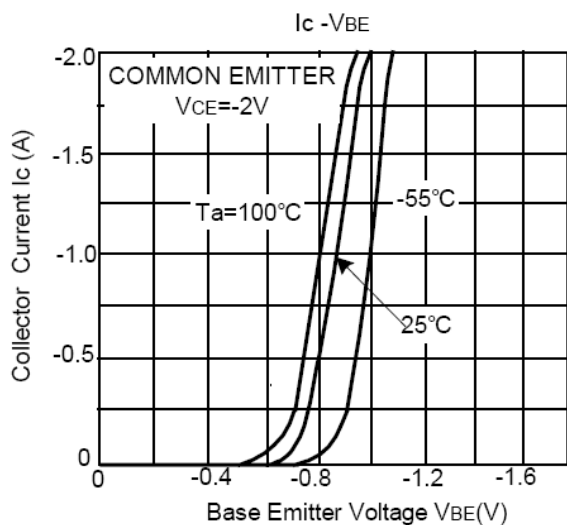
**2SA1020**

TYPICAL CHARACTERISTICS @  $T_a=25^\circ\text{C}$  unless otherwise specified



PNP Epitaxial Silicon Transistor

**2SA1020**



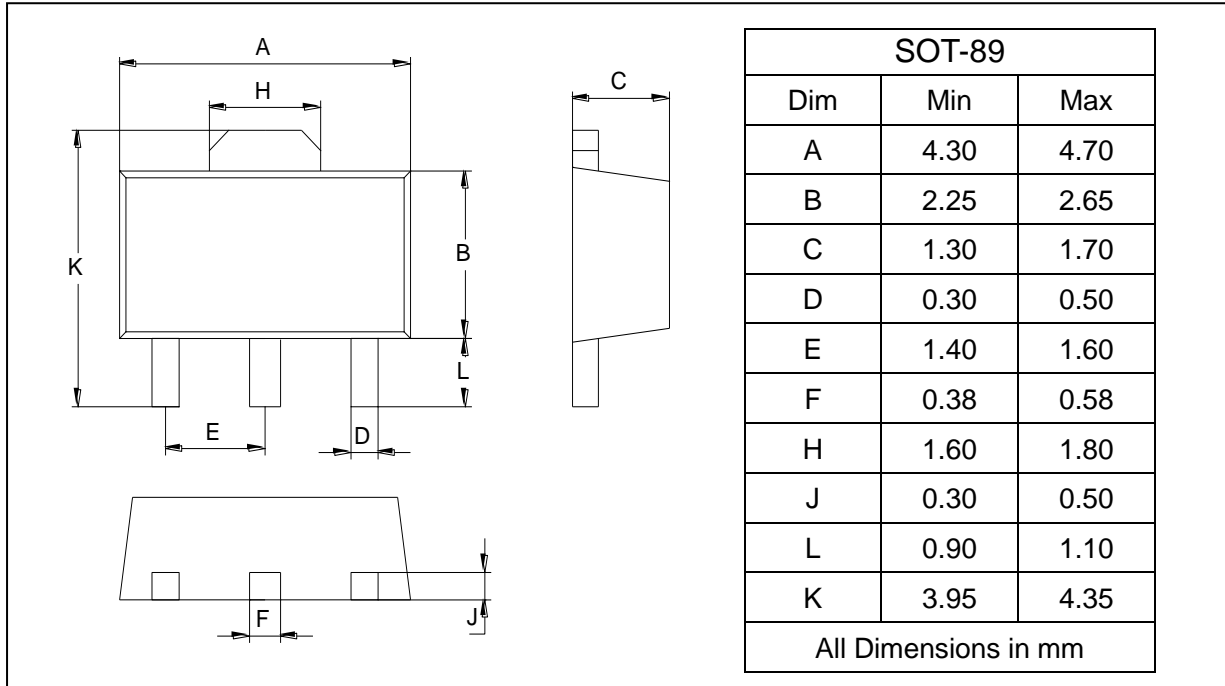
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## 2SA1020

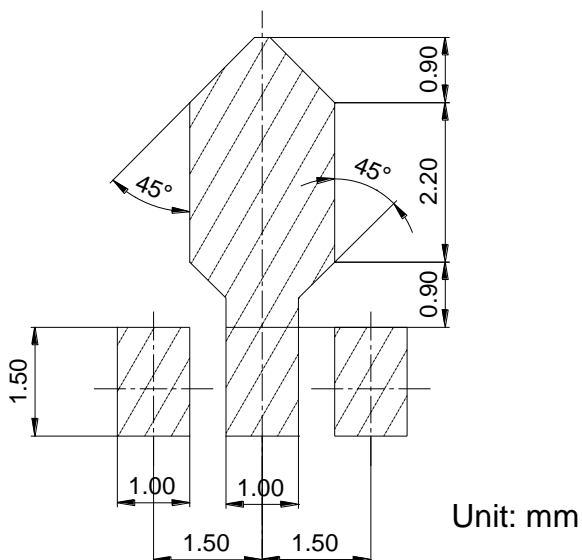
### PACKAGE OUTLINE

Plastic surface mounted package

SOT-89



### SOLDERING FOOTPRINT



### PACKAGE INFORMATION

Device	Package	Shipping
2SA1020	SOT-89	1000 pcs / Tape & Reel