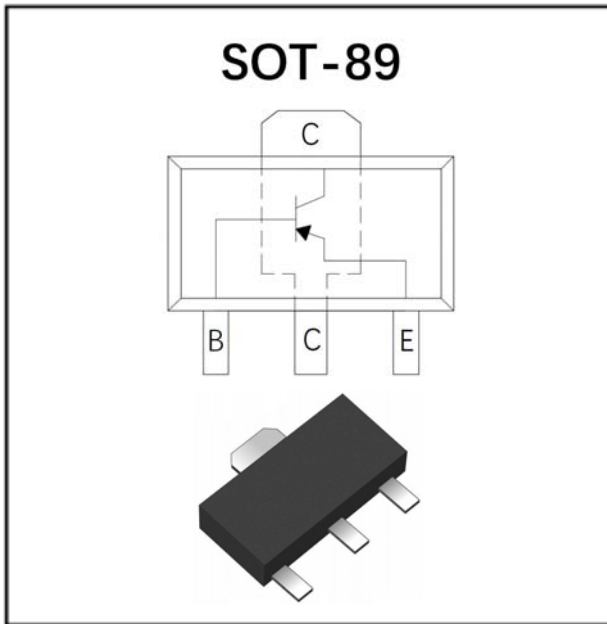


## PNP General Purpose Amplifier



### Features

- Epoxy meets UL-94 V-0 flammability rating
- Halogen free available upon request by adding suffix "HF"
- Moisture sensitivity level 1
- Low collector-emitter saturation voltage

### Mechanical Data

- **Package:** SOT-89  
Molding compound meets UL 94 V-0 flammability rating, RoHS-compliant, halogen-free
- **Terminals:** Tin plated leads, solderable per J-STD-002 and JESD22-B102
- **Marking:**

2SA2016	AW
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### ■Maximum Ratings (Ta=25°C unless otherwise noted)

Item	Symbol	Unit	Conditions	Value
Collector-Emitter Voltage	$V_{CEO}$	V	$I_C = -1mA, I_B = 0$	-50
Collector-Base Voltage	$V_{CBO}$	V	$I_C = -50\mu A, I_E = 0$	-50
Emitter-Base Voltage	$V_{EBO}$	V	$I_E = -50\mu A, I_C = 0$	-6
Collector Current	$I_C$	A		-7
Collector Power Dissipation	$P_C$	mW		500
Operation Junction Temperature	$T_J$	°C		-55 to +150
Storage Temperature	$T_{stg}$	°C		-55 to +150



## ■ Electrical Characteristics (Ta=25°C unless otherwise noted)

Item	Symbol	Unit	Conditions	Min	TYP	Max
Collector-Emitter Voltage	V <sub>CEO</sub>	V	I <sub>C</sub> =-1mA, I <sub>B</sub> =0	-50		
Collector-Base Voltage	V <sub>CBO</sub>	V	I <sub>C</sub> =-50uA, I <sub>E</sub> =0	-50		
Emitter-Base Voltage	V <sub>EBO</sub>	V	I <sub>E</sub> =-50uA, I <sub>C</sub> =0	-6		
Collector-Base cut-off current	I <sub>CBO</sub>	nA	V <sub>CB</sub> =-40V, I <sub>E</sub> =0			-100
Emitter-Base cut-off current	I <sub>EBO</sub>	nA	V <sub>EB</sub> =-4V, I <sub>C</sub> =0			-100
DC Current Gain	h <sub>FE</sub>		V <sub>CE</sub> =-2V, I <sub>C</sub> =-500mA	200		560
Collector-Emitter Saturation Voltage	V <sub>CE(sat)</sub>	V	I <sub>C</sub> =-3.5A, I <sub>B</sub> =-175mA			-0.39
			I <sub>C</sub> =-2A, I <sub>B</sub> =-40mA			-0.4
Base-Emitter Saturation Voltage	V <sub>BE(sat)</sub>	V	I <sub>C</sub> =-2A, I <sub>B</sub> =-40mA			-1.2
Transition Frequency	f <sub>T</sub>	MHz	I <sub>C</sub> =-0.5A, V <sub>CE</sub> =-10V,		290	
Output Capacitance	C <sub>ob</sub>	pF	V <sub>CB</sub> =-10V, I <sub>E</sub> =0, f=1MHz		28	

## ■ Thermal Characteristics

Parameter	Symbol	Unit	Value
Thermal resistance, junction-to-ambient	R <sub>θJ-A</sub> <sup>(1)</sup>	°C/W	250
Thermal resistance, junction-to-case	R <sub>θJ-C</sub> <sup>(1)</sup>	°C/W	50

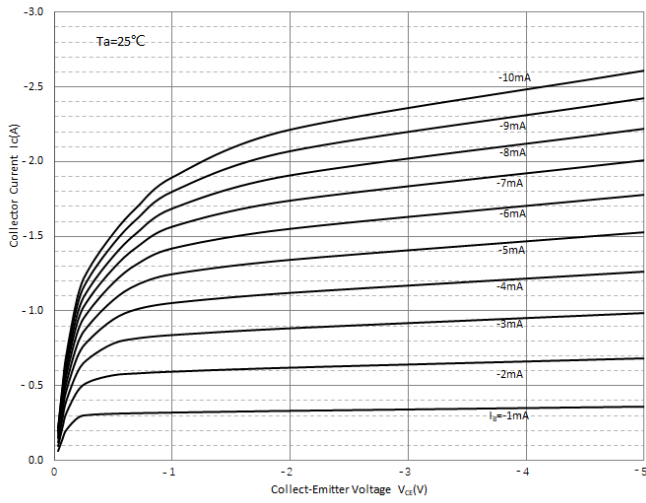
Note1: The device is installed and tested on 25.4 \* 25.4 \* 1.5mm P.C.B.

## ■ Ordering Information (Example)

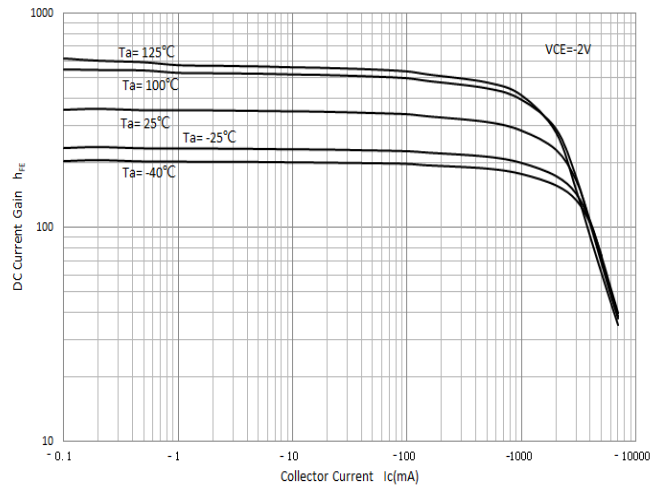
PREFERRED P/N	PACKING CODE	UNIT WEIGHT(g)	MINIMUM PACKAGE(pcs)	INNER BOX QUANTITY(pcs)	OUTER CARTON QUANTITY(pcs)	DELIVERY MODE
2SA2016	F2	Approximate 0.055	1000	8000	32000	7" reel

## ■ Characteristics (Typical)

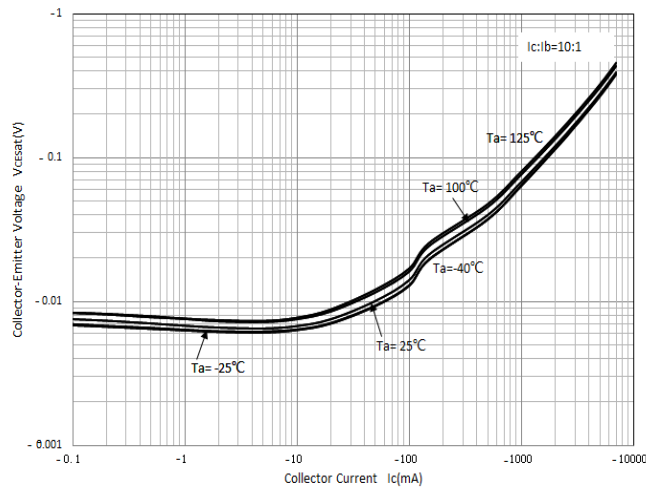
Static characteristic



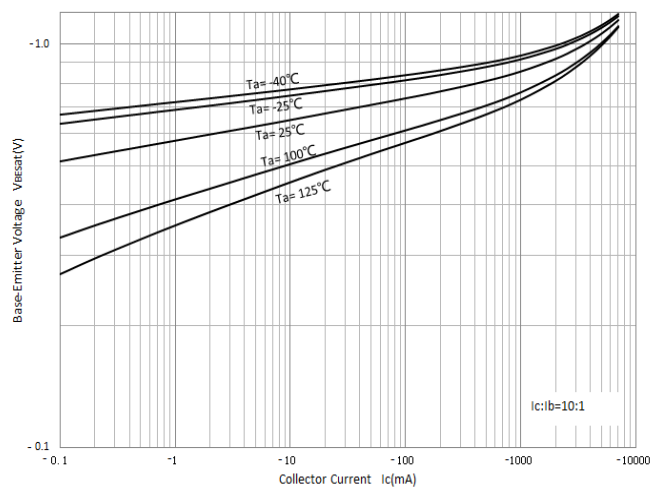
DC Current Gain



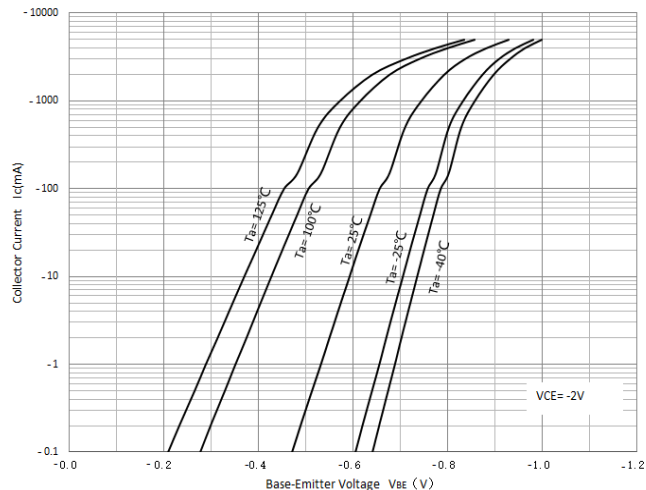
Collector-Emitter Saturation Voltage



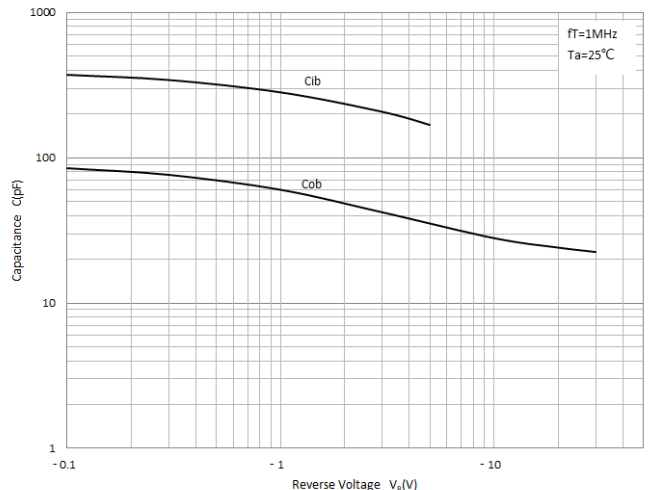
Base-Emitter Saturation Voltage



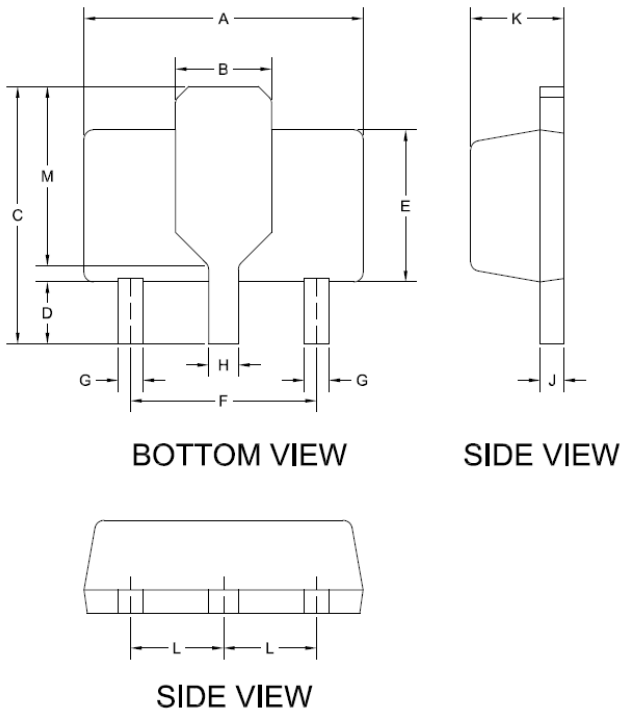
Base-Emitter On Voltage



Cob/Cib-V<sub>CB</sub>/V<sub>EB</sub>

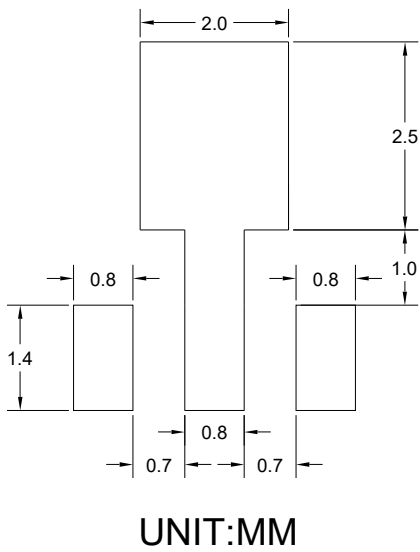


## ■SOT-89 Package Outline Dimensions



DIM	DIMENSIONS			
	INCHES		MM	
	MIN.	MAX.	MIN.	MAX.
A	0.173	0.181	4.400	4.600
B	0.061 TYP.		1.550 TYP.	
C	0.155	0.167	3.940	4.250
D	0.031	0.047	0.800	1.200
E	0.094	0.102	2.400	2.600
F	0.118 TYP.		3.00 TYP.	
G	0.014	0.019	0.360	0.480
H	0.017	0.022	0.440	0.560
J	0.014	0.017	0.350	0.440
K	0.055	0.063	1.400	1.600
L	0.059 TYP.		1.500 TYP.	
M	0.108 TYP.		2.750 TYP.	

## ■SOT-89 Suggested Pad Layout





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