

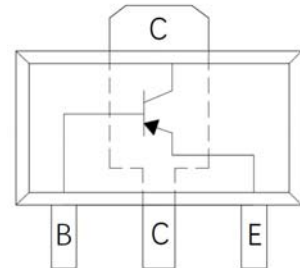
### Features

- 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

### SOT-89



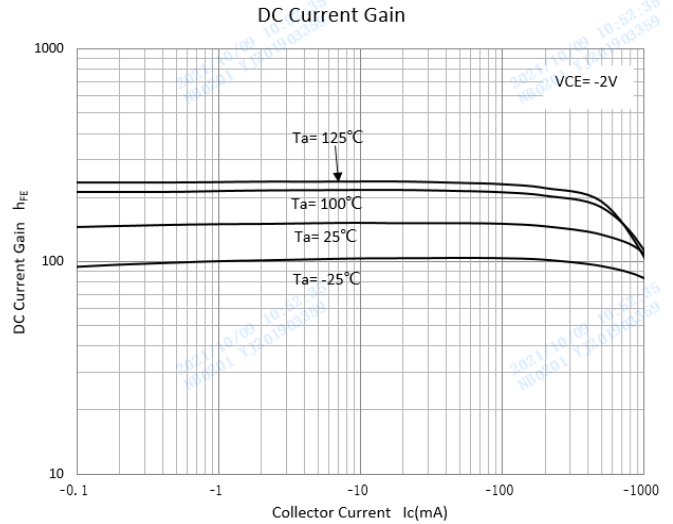
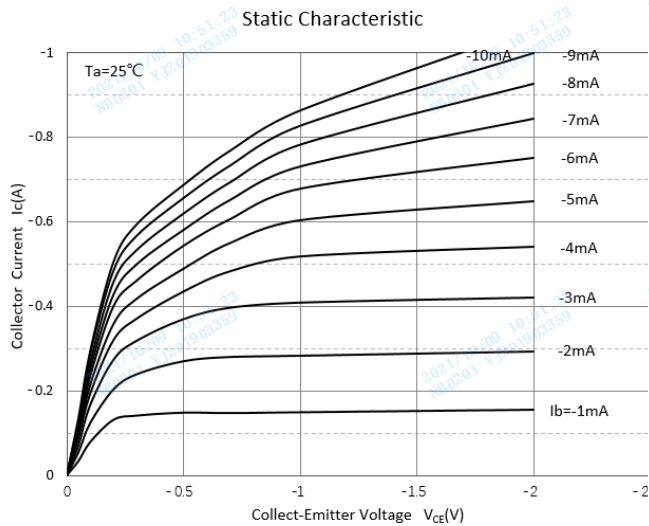
### Maximum Ratings (Ta=25°C unless otherwise noted)

Item	Symbol	Unit	Conditions	Value
Minimum Collector-Emitter Voltage	$V_{CEO}$	V	$I_C = -10\text{mA}$ , $I_B = 0$	-80
Minimum Collector-Base Voltage	$V_{CBO}$	V	$I_C = -100\mu\text{A}$ , $I_E = 0$	-100
Minimum Emitter-Base Voltage	$V_{EBO}$	V	$I_E = -100\mu\text{A}$ , $I_C = 0$	-5
Collector Current	$I_C$	A		-1
Collector Power Dissipation	$P_C$	mW		500
Thermal Resistance From Junction To Ambient	$R_{\theta JA}$	°C/W		250
Operation Junction Temperature	$T_j$	°C		-55 to +150
Storage Temperature	$T_{stg}$	°C		-55 to +150

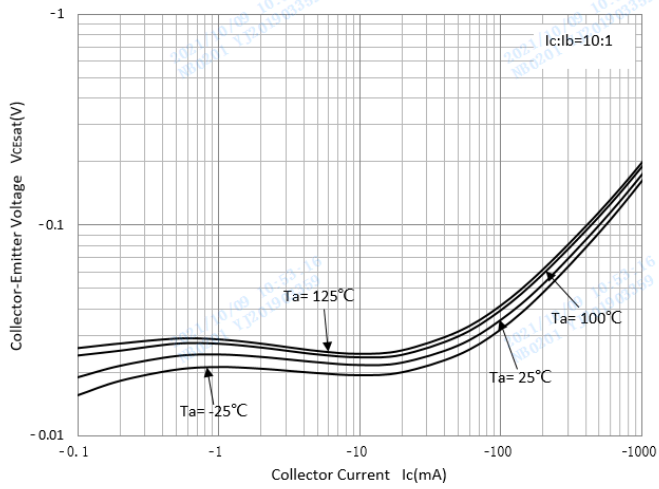
## Electrical Characteristics (Ta=25°C unless otherwise noted)

Item	Symbol	Unit	Conditions	Min	TYP	Max
Collector-Emitter Voltage	$V_{CE0}$	V	$I_C = -10mA, I_B = 0$	-80		
Collector-Base Voltage	$V_{CBO}$	V	$I_C = -100\mu A, I_E = 0$	-100		
Emitter-Base Voltage	$V_{EBO}$	V	$I_E = -100\mu A, I_C = 0$	-5		
Collector-Base cut-off current	$I_{CBO}$	nA	$V_{CB} = -30V$			-100
Emitter-Base cut-off current	$I_{EBO}$	nA	$V_{EB} = -5V$			-100
DC Current Gain	$h_{FE1}$		$V_{CE} = -2V, I_C = -150mA$	63		250
	$h_{FE2}$		$V_{CE} = -2V, I_C = -5mA$	63		
	$h_{FE3}$		$V_{CE} = -2V, I_C = -500mA$	40		
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$	V	$I_C = -500mA, I_B = -50mA$			-0.5
Base-Emitter Voltage	$V_{BE}$	V	$V_{CE} = -2V, I_C = -500mA$			-1
Transition Frequency	$f_T$	MHz	$I_C = -10mA, V_{CE} = -5V, f = 100MHz$		50	

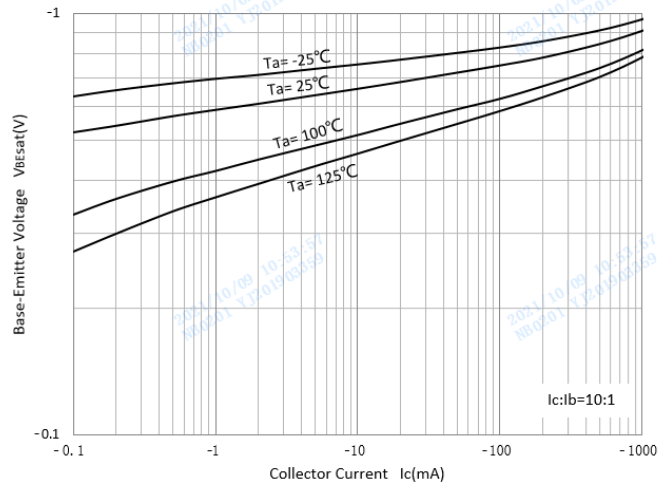
## Characteristics (Typical)



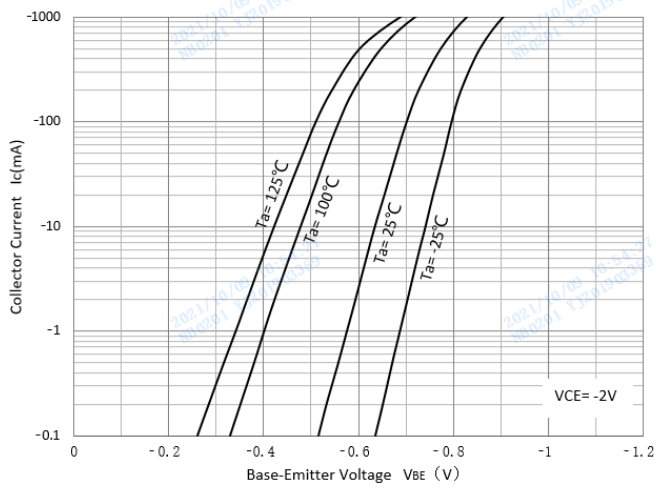
Collector-Emitter Saturation Voltage



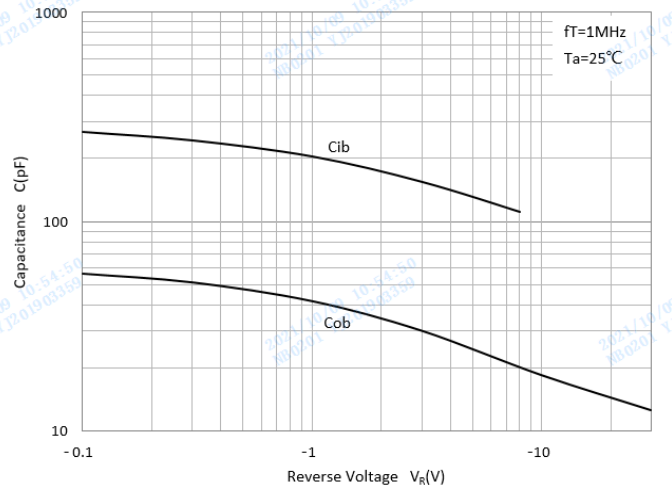
Base-Emitter Saturation Voltage



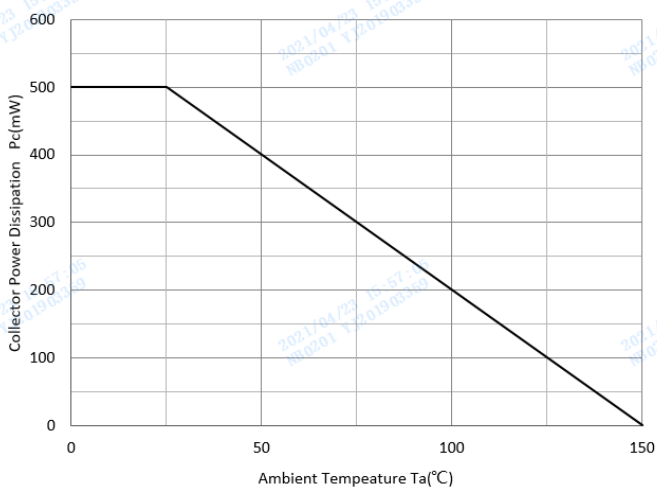
Base-Emitter On Voltage

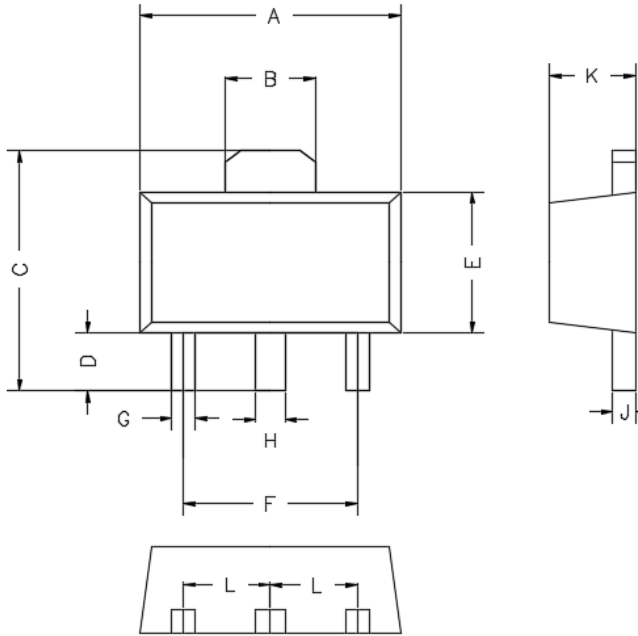


Cob/Cib- $V_{CB}/V_{EB}$

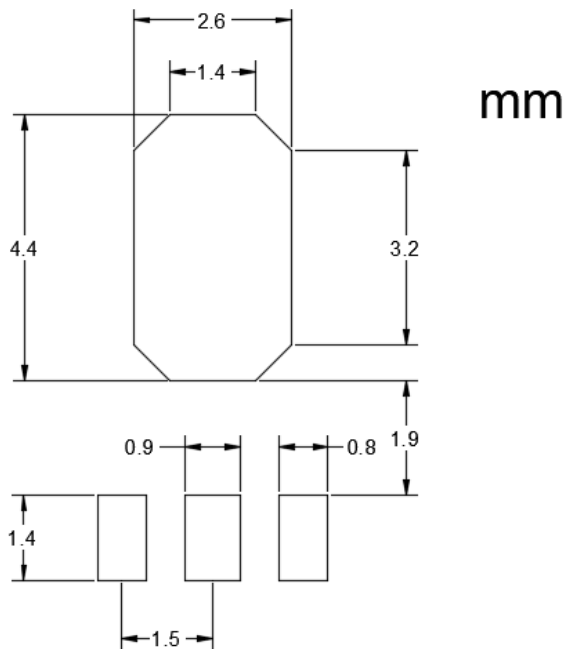


Collector Power Derating Curve



**SOT-89 Package Outline Dimensions**


DIMENSIONS					
DIM	INCHES		MM		NOTE
	MIN	MAX	MIN	MAX	
A	0.169	0.185	4.30	4.70	
B	0.061		1.55		TYP
C	0.154	0.171	3.91	4.35	
D	0.031	0.047	0.80	1.20	
E	0.089	0.104	2.25	2.65	
F	0.118		3.00		TYP
G	0.013	0.020	0.33	0.52	
H	0.016	0.023	0.40	0.58	
J	0.014	0.017	0.35	0.44	
K	0.055	0.063	1.40	1.60	
L	0.059		1.50		TYP

**SOT-89 Suggested Pad Layout**


mm