



**THE DATASHEET OF  
BC807-40W-AU\_R1\_000A1**





# BC807-16W-AU / BC807-25W-AU / BC807-40W-AU

## Silicon PNP General Purpose Transistors

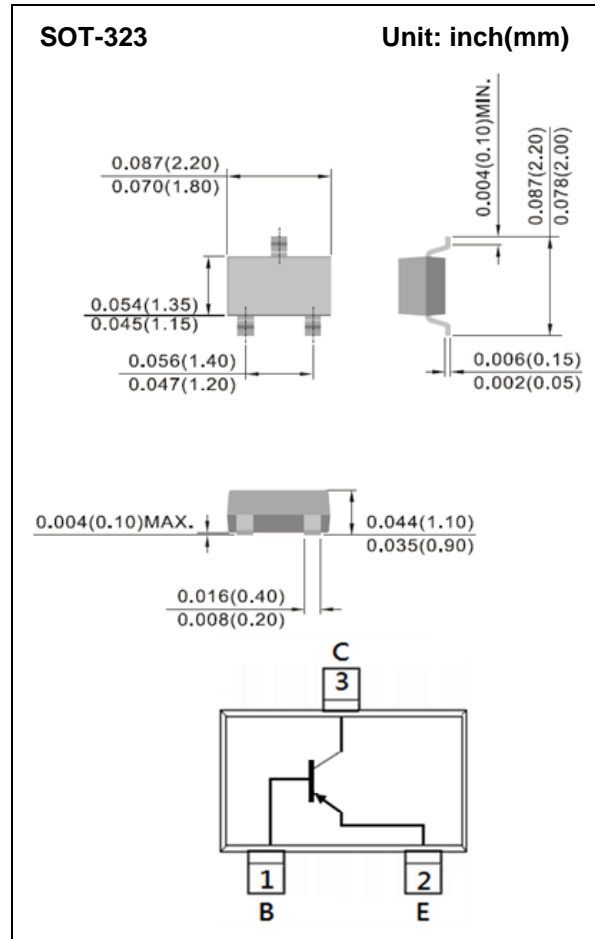
**Voltage** -45V **Current** -500mA

### Features

- Silicon PNP Epitaxial type
- Excellent DC current gain characteristics
- General purpose amplifier application
- AEC-Q101 qualified
- Lead free in compliance with EU RoHS 2.0
- Green molding compound as per IEC 61249 Standard
- NPN complement: BC817W-AU series

### Mechanical Data

- Case: SOT-323 Package
- Terminals : Solderable per MIL-STD-750, Method 2026
- Approx. Weight: 0.0001 ounces, 0.005grams
- Marking: BC807-16W-AU: 7S  
BC807-25W-AU: 7V  
BC807-40W-AU: 7W



### Maximum Ratings and Thermal Characteristics (T<sub>A</sub>=25°C unless otherwise noted)

PARAMETER	SYMBOL	LIMIT	UNITS
Collector-Base Voltage	V <sub>CBO</sub>	-50	V
Collector-Emitter Voltage	V <sub>CEO</sub>	-45	V
Emitter-Base Voltage	V <sub>EBO</sub>	-5	V
Collector Current (DC)	I <sub>C</sub>	-500	mA
Collector Current (Pulse)	I <sub>CP</sub>	-1000	mA
Total Power Dissipation	P <sub>TOT</sub>	300	mW
Operating Junction and Storage Temperature Range	T <sub>J</sub> , T <sub>STG</sub>	-55~150	°C
Thermal Resistance from Junction to Ambient <sup>(Note)</sup>	R <sub>θJA</sub>	420	°C/W

Note: Mounted on minimum pad mount on FR-4 board.



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**Electrical Characteristics** ( $T_A=25^\circ\text{C}$  unless otherwise noted)

PARAMETER	SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNITS
<b>OFF Characteristics</b>						
Collector-Emitter Breakdown Voltage	$BV_{CEO}$	$I_C = -10\text{mA}, I_B = 0\text{A}$	-45	-	-	V
Collector-Base Breakdown Voltage	$BV_{CBO}$	$I_C = -10\mu\text{A}, I_E = 0\text{A}$	-50	-	-	V
Emitter-Base Breakdown Voltage	$BV_{EBO}$	$I_E = -1\mu\text{A}, I_C = 0\text{A}$	-5	-	-	V
Collector-Base Cutoff Current	$I_{CBO}$	$V_{CB} = -20\text{V}, I_E = 0\text{A}$	-	-	-100	nA
Collector-Base Cutoff Current	$I_{CBO}$	$T_j = 125^\circ\text{C}$	-	-	-5	$\mu\text{A}$
Emitter-Base Cutoff Current	$I_{EBO}$	$V_{EB} = -5\text{V}$	-	-	-100	nA
<b>ON characteristics</b>						
DC Current Gain	BC807-16W-AU	$h_{FE}$	$V_{CE} = -1\text{V}, I_C = -100\text{mA}$	100	-	250
	BC807-25W-AU			160	-	400
	BC807-40W-AU			250	-	600
DC Current Gain		$V_{CE} = -1\text{V}, I_C = -500\text{mA}$	40	-	-	
Collector-Emitter Saturation Voltage	$V_{CE(SAT)}$	$I_C = -500\text{mA}, I_B = -50\text{mA}$	-	-	-0.7	V
Base-Emitter Turn-on voltage	$V_{BE(on)}$	$I_C = -500\text{mA}, V_{CE} = -1\text{V}$	-	-	-1.2	V
Transition Frequency	$f_T$	$I_C = -10\text{mA}, V_{CE} = -5\text{V}$	100	-	-	MHz
Collector Output Capacitance	$C_{OB}$	$V_{CB} = -10\text{V}, f = 1\text{MHz}$	-	7	-	pF



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## TYPICAL CHARACTERISTIC CURVES

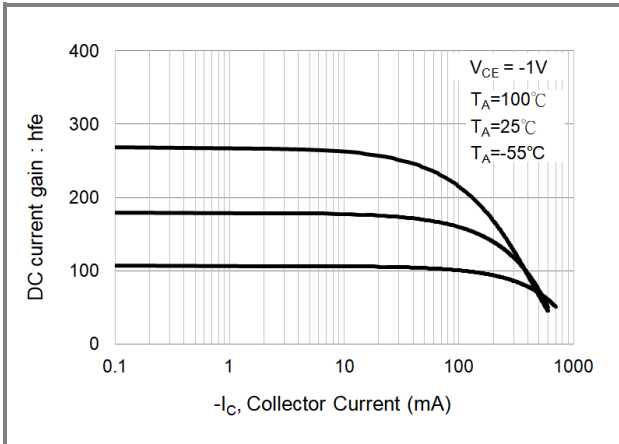


Fig.1 DC Current Gain (-16)

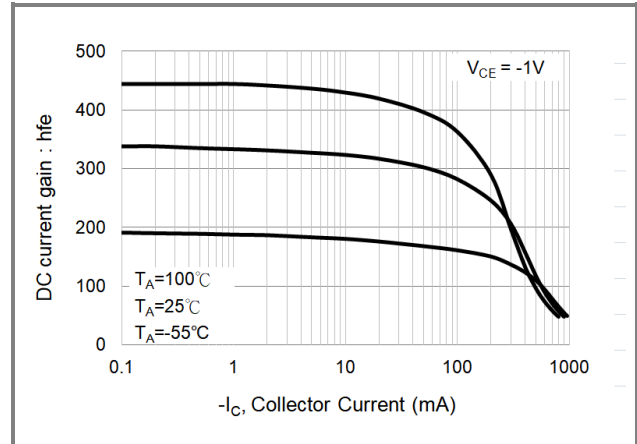


Fig.2 DC Current Gain (-25)

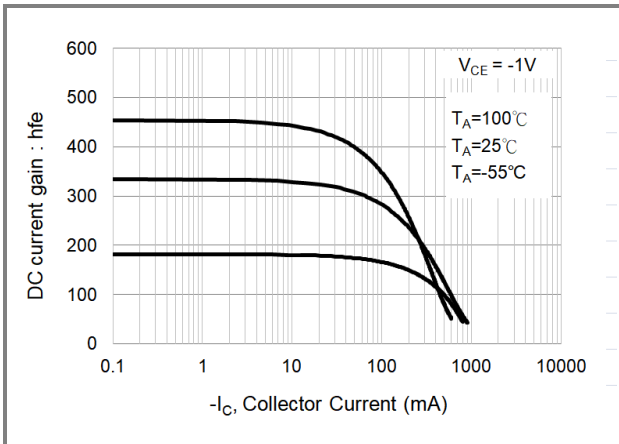


Fig.3 DC Current Gain (-40)

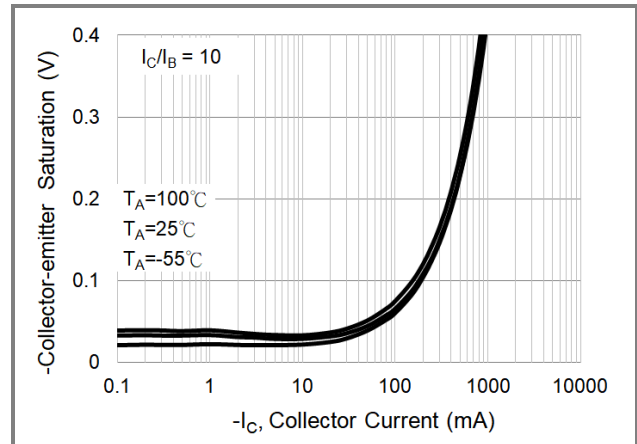


Fig.4 Collector-Emitter Saturation Voltage (-16)

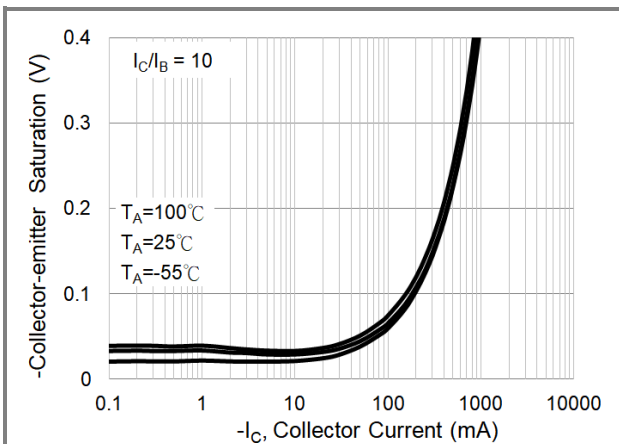


Fig.5 Collector-Emitter Saturation Voltage (-25)

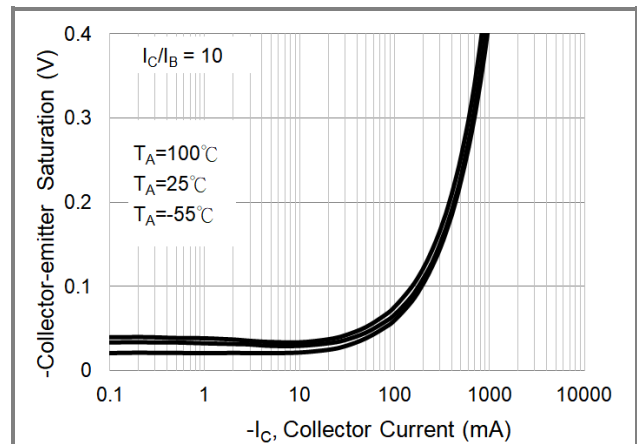


Fig.6 Collector-Emitter Saturation Voltage (-40)



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## TYPICAL CHARACTERISTIC CURVES

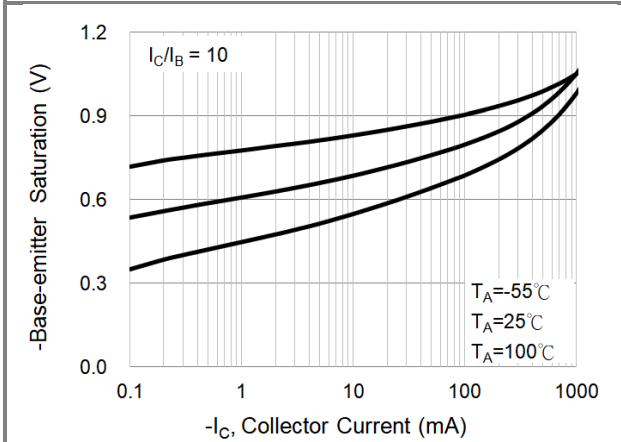


Fig.7 Base-Emitter Saturation Voltage (-16)

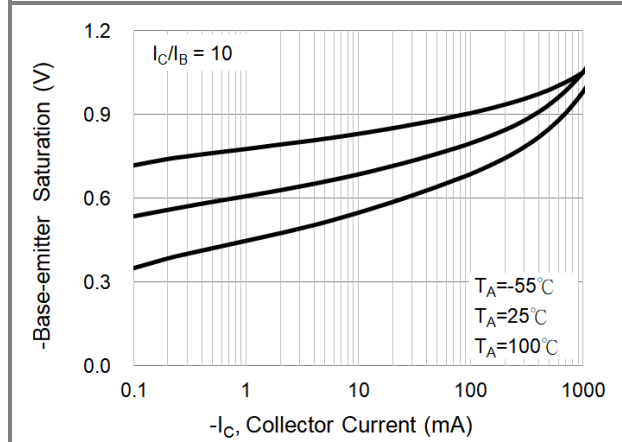


Fig.8 Base-Emitter Saturation Voltage (-25)

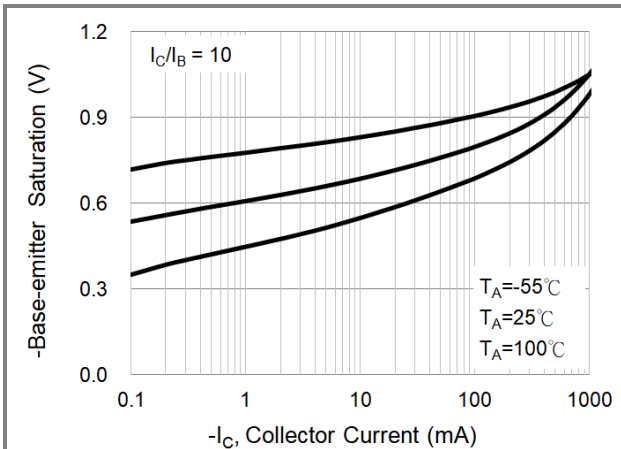


Fig.9 Base-Emitter Saturation Voltage (-40)

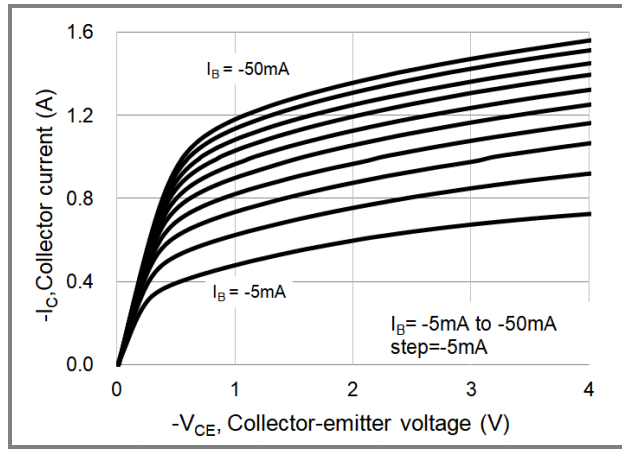


Fig.10 Collector Current (-16)

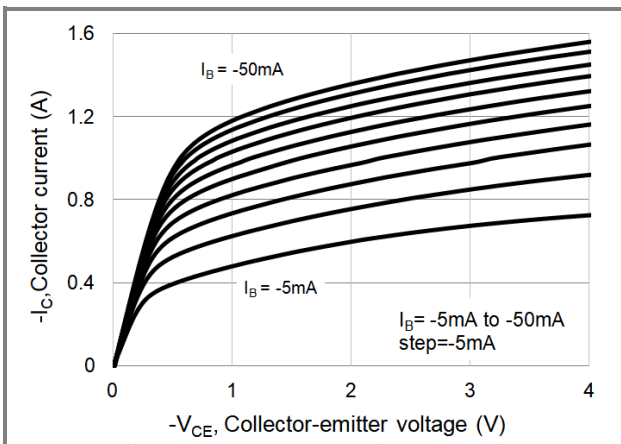


Fig.11 Collector Current (-25)

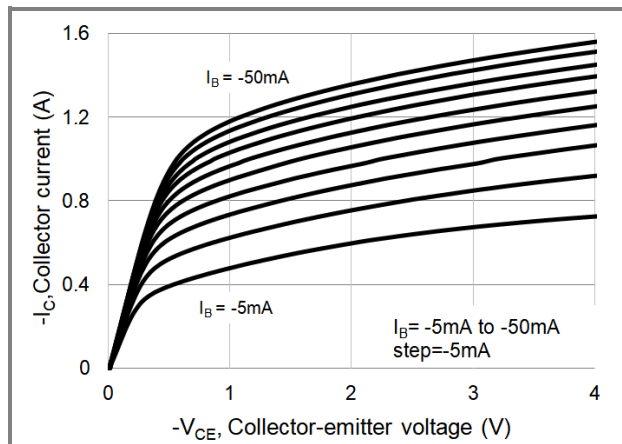


Fig.12 Collector Current (-40)

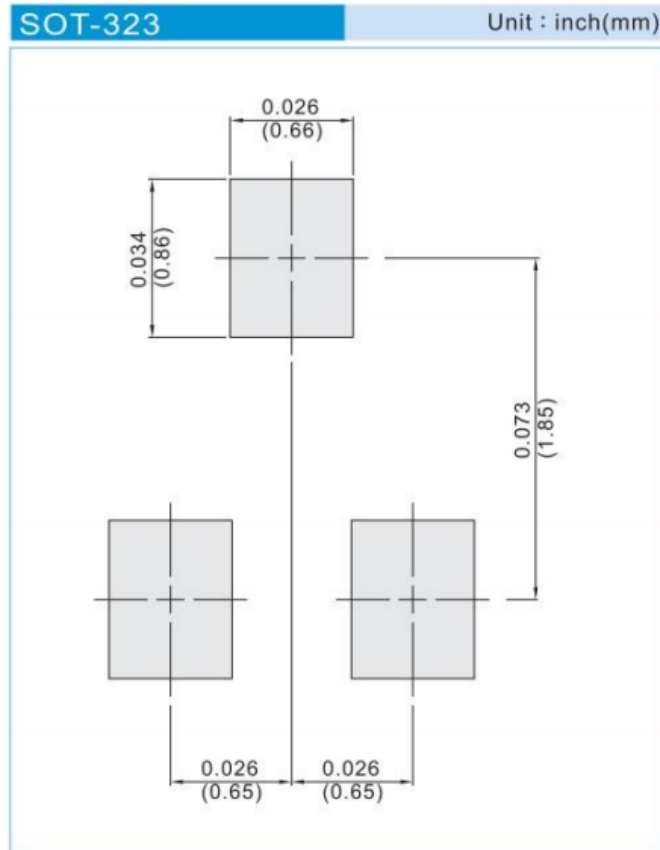


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## PART NO PACKING CODE VERSION

Part No Packing Code	Package Type	Packing type	Marking	Version
BC807-16W-AU_R1_000A1	SOT-323	3K pcs / 7" reel	7S	Halogen free
BC807-25W-AU_R1_000A1	SOT-323	3K pcs / 7" reel	7V	Halogen free
BC807-40W-AU_R1_000A1	SOT-323	3K pcs / 7" reel	7W	Halogen free

## MOUNTING PAD LAYOUT





## **BC807-16W-AU / BC807-25W-AU / BC807-40W-AU**

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