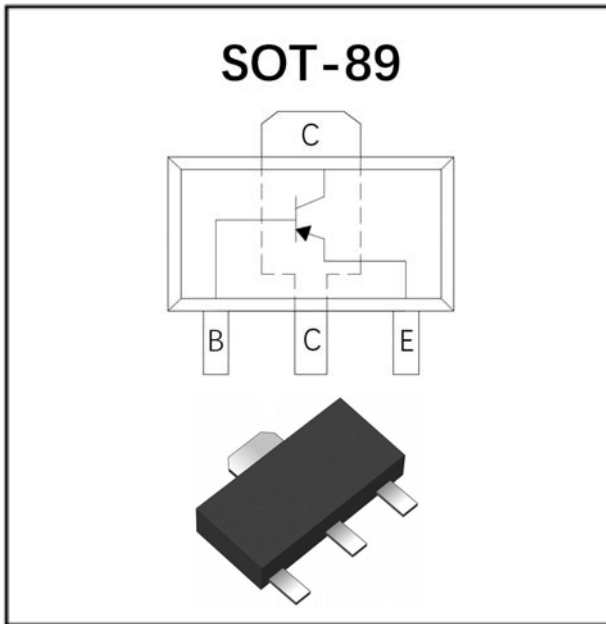


PNP General Purpose Amplifier



Features

- Epoxy meets UL-94 V-0 flammability rating
- Moisture Sensitivity Level 1
- High power dissipation capability
- Exposed heatsink for excellent thermal and electrical conductivity
- Part no. with suffix "Q" means AEC-Q101 qualified

Application

- Linear voltage regulators、 Low-side switches
- Battery-driven devices、 MOSFET drivers
- Amplifiers

Mechanical Data

- **Package:** SOT-89
- **Terminals:** Tin plated leads, solderable per J-STD-002 and JESD22-B102
- **Marking:** AL

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

Item	Symbol	Unit	Value
Minimum Collector-Emitter Voltage	V_{CEO}	V	-80
Minimum Collector-Base Voltage	V_{CBO}	V	-100
Minimum Emitter-Base Voltage	V_{EBO}	V	-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

(*) Device mounted on FR-4 PCB 1.0 x 1.0 x 0.06 inch.



BCX53-16Q

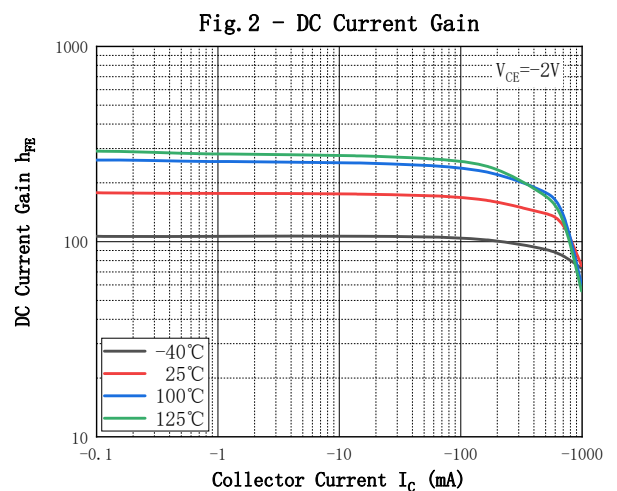
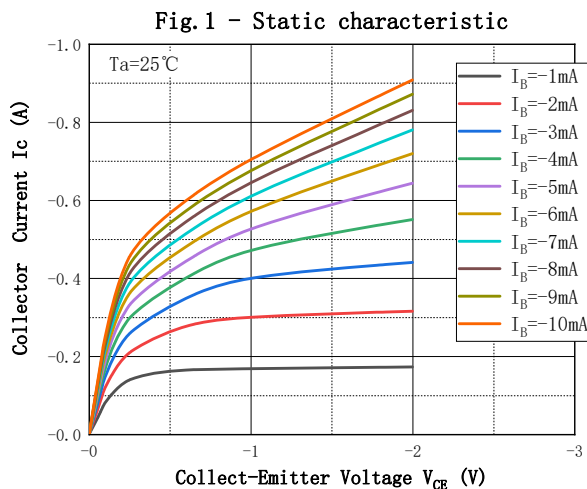
■Electrical Characteristics (Ta=25°C unless otherwise noted)

Item	Symbol	Unit	Conditions	Min	TYP	Max
Collector-Emitter Voltage	V_{CEO}	V	$I_C = -10mA, I_B = 0$	-80		
Collector-Base Voltage	V_{CBO}	V	$I_C = -100uA, I_E = 0$	-100		
Emitter-Base Voltage	V_{EBO}	V	$I_E = -100uA, I_C = 0$	-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_{FE}		$V_{CE} = -2V, I_C = -5mA$	63		
	h_{FE}		$V_{CE} = -2V, I_C = -150mA$	100		250
	h_{FE}		$V_{CE} = -2V, I_C = -500mA$	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	

■Ordering Information (Example)

PREFERRED P/N	PACKING CODE	UNIT WEIGHT(g)	MINIMUM PACKAGE(pcs)	INNER BOX QUANTITY(pcs)	OUTER CARTON QUANTITY(pcs)	DELIVERY MODE
BCX53-16Q	F2	Approximate 0.055	1000	8000	32000	7" reel

■Characteristics (Typical)





BCX53-16Q

Fig. 3 - Collect-Emmitter Saturation Voltage

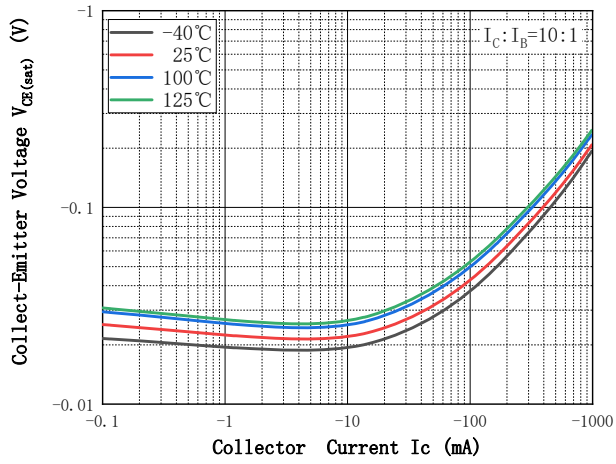


Fig. 4 - Base-Emmitter Voltage

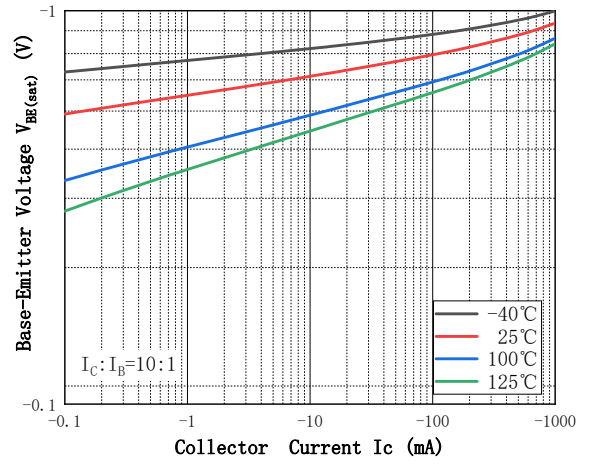


Fig. 5 - Base-Emmitter On Voltage

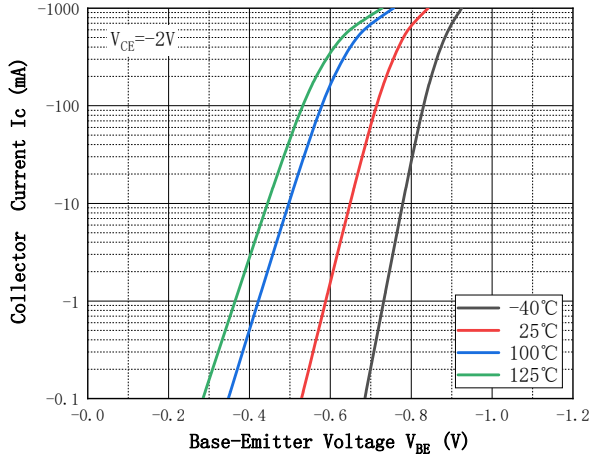


Fig. 6 - Cob/Cib—VCB/VEB

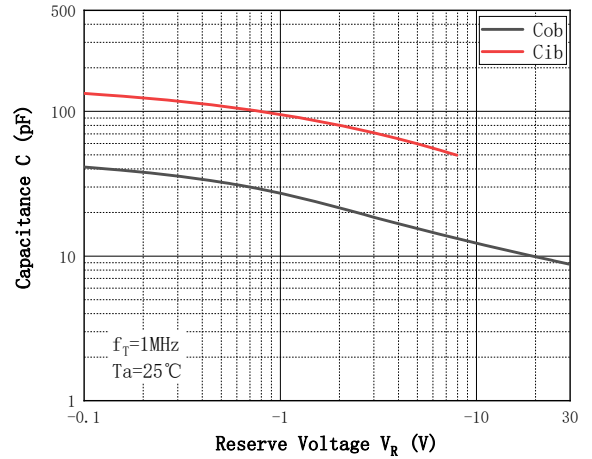
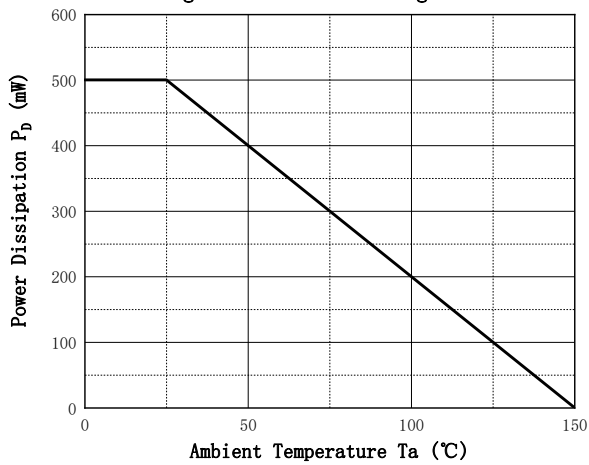


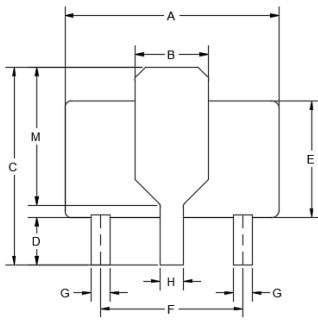
Fig. 7 - Power Derating Curve



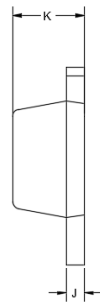


BCX53-16Q

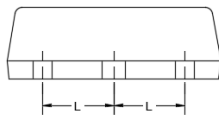
■SOT-89 Package Outline Dimensions



BOTTOM VIEW



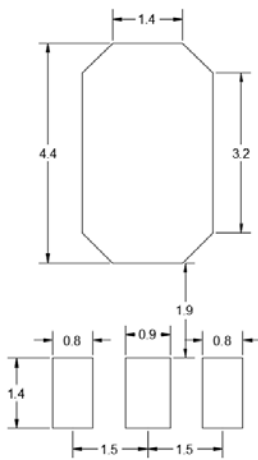
SIDE VIEW



SIDE VIEW

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



UNIT:MM

SUGGESTED SOLDER PAD LAYOUT



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