Elektronische Bauelemente

BCP669A

1.5A, 180V
NPN Epitaxial Planar Transistor

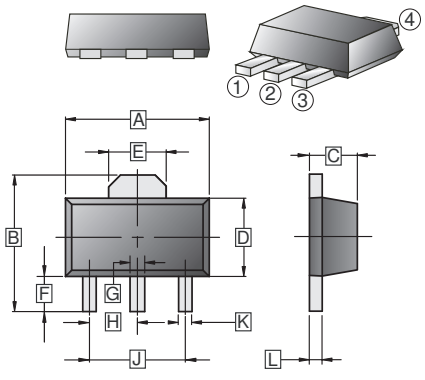
RoHS Compliant Product

A suffix of "-C" specifies halogen & lead-free

DESCRIPTION

- Low Frequency Power Amplifier
- Designed for General
- High Breakdown Voltage
- High Power Dissipation
- Amplifier and Switching Applications

SOT-89



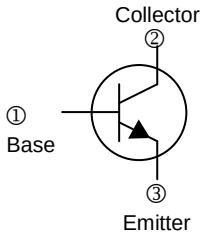
REF.	Millimeter		REF.	Millimeter	
	Min.	Max.		Min.	Max.
A	4.40	4.60	G	0.40	0.58
B	3.94	4.25	H	1.50 TYP	
C	1.40	1.60	J	3.00 TYP	
D	2.25	2.60	K	0.32	0.52
E	1.55 TYP.		L	0.35	0.44
F	0.89	1.20			

PACKAGE INFORMATION

Package	MPQ	Leader Size
SOT-89	1K	7 inch

ORDER INFORMATION

Part Number	Type
BCP669A	Lead (Pb)-free
BCP669A-C	Lead (Pb)-free and Halogen-free



ABSOLUTE MAXIMUM RATINGS (T_A=25℃ unless otherwise specified)

Parameter	Symbol	Ratings	Unit
Collector-Base Voltage	V_{CBO}	180	V
Collector-Emitter Voltage	V_{CEO}	160	V
Emitter-Base Voltage	V_{EBO}	5	V
Collector Current	I_C	1.5	A
Total Power Dissipation [1]	P_D	0.6	W
Total Power Dissipation [2]		1	
Junction, Storage Temperature	T_J, T_{STG}	150, -55~150	℃
Thermal Data			
Thermal Resistance Junction-Ambient [1]	$R_{\theta JA}$	208	℃/W
Thermal Resistance Junction-Ambient [2]		125	
Thermal Resistance Junction-Case	$R_{\theta JC}$	40	

Notes:
1. When mounted on Min. copper pad.
2. When mounted on FR-4 PCB with area measuring 15×15×1 mm.

ELECTRICAL CHARACTERISTICS (T_A=25℃ unless otherwise specified)

Parameter	Symbol	Min.	Typ.	Max.	Unit	Test Conditions
Collector-Base Breakdown Voltage	BV_{CBO}	180	-	-	V	I_C=1mA, I_E=0
Collector-Emitter Breakdown Voltage	BV_{CEO}	160	-	-	V	I_C=10mA, I_B=0
Emitter-Base Breakdown Voltage	BV_{EBO}	5	-	-	V	I_E=1mA, I_C=0
Collector Cut-off Current	I_{CBO}	-	-	10	μA	V_{CB}=160V, I_E=0
Emitter Cut-off Current	I_{EBO}	-	-	10	μA	V_{EB}=4V, I_C=0
Collector-Emitter Saturation Voltage	*$V_{CE(sat)}$	-	-	1	V	I_C=500mA, I_B=50mA
Base-Emitter Saturation Voltage	*$V_{BE(on)}$	-	-	1.5	V	V_{CE}=5V, I_C=150mA
DC Current Gain	*h_{FE1}	100	-	200		V_{CE}=5V, I_C=150mA
DC Current Gain	*h_{FE2}	30	-	-		V_{CE}=5V, I_C=500mA
Transition Frequency	f_T	-	140	-	MHz	V_{CE}=5V, I_C=150mA
Collector Output Capacitance	Cob	-	14	-	pF	V_{CB}=10V, I_E=0, f=1MHz

* Pulse Test: Pulse Width≦380μs, Duty Cycle≦2%

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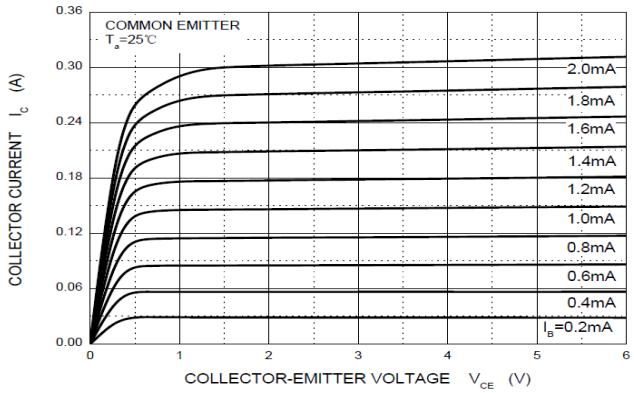
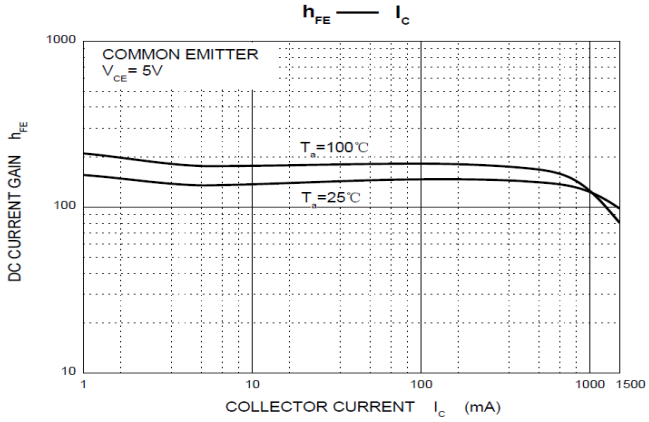
CHARACTERISTIC CURVES

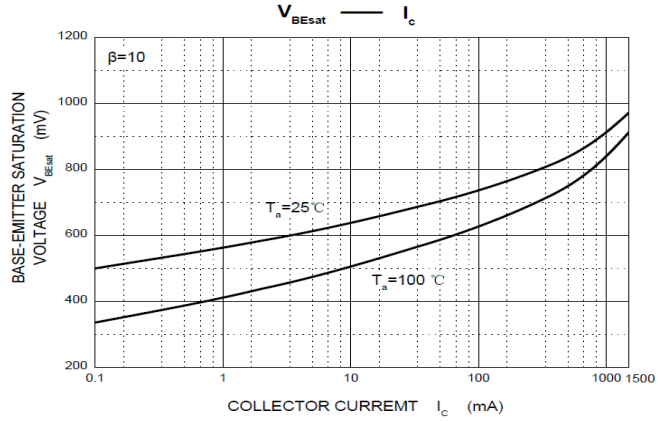
Static Characteristic



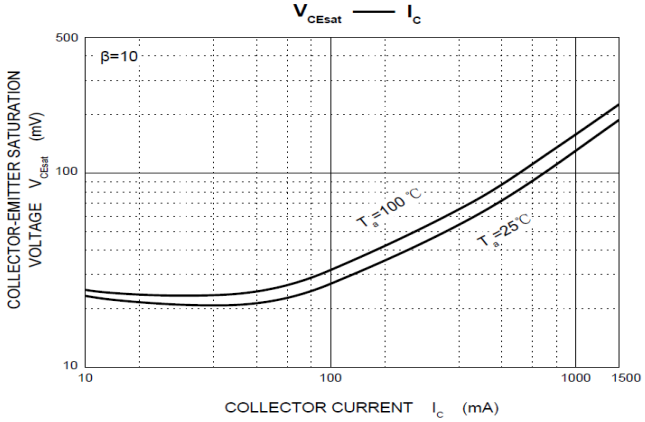
h_{FE} —— I_C



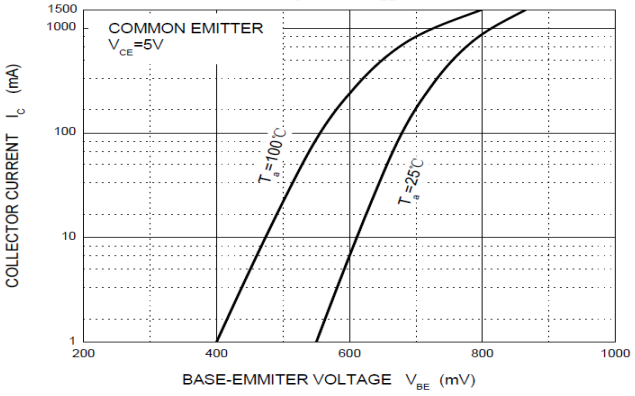
V_{BEsat} —— I_C



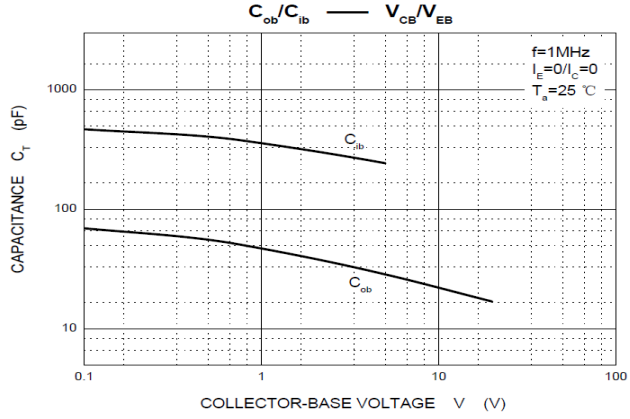
V_{CEsat} —— I_C



I_C —— V_{BE}



C_{ob}/C_{ib} —— V_{CB}/V_{EB}



P_D —— T_a