

RoHS Compliant Product

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

FEATURES

- Low Collector Saturation Voltage
- High Break Down Voltage
- High Total Power Dissipation

MARKING

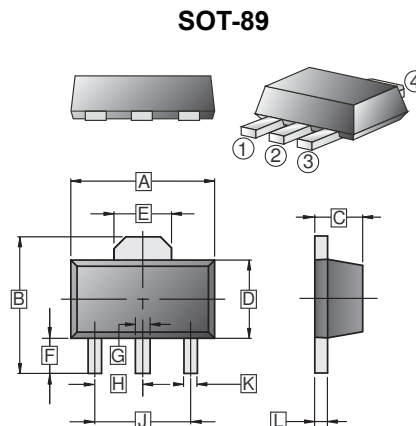
1616A

CLASSIFICATION OF h_{FE1}

Rank	L	K	U
Range	135~270	200~400	300~600

PACKAGE INFORMATION

Package	MPQ	Leader Size
SOT-89	1K	7 inch

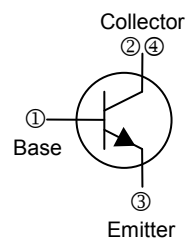


REF.	Millimeter		REF.	Millimeter	
	Min.	Max.		Min.	Max.
A	4.40	4.60	G	0.40	0.58
B	3.94	4.25	H	1.50 TYP	
C	1.40	1.60	J	3.00 TYP	
D	2.25	2.60	K	0.32	0.52
E	1.55 TYP.		L	0.35	0.44
F	0.89	1.20			

ORDER INFORMATION

Part Number	Type
BCP1616A-□	Lead (Pb)-free
BCP1616A-□-C	Lead (Pb)-free and Halogen-free

*□=Rank



ABSOLUTE MAXIMUM RATINGS ($T_A=25^\circ\text{C}$ unless otherwise specified)

Parameter	Symbol	Ratings	Unit
Collector-Base Voltage	V_{CBO}	120	V
Collector-Emitter Voltage	V_{CEO}	60	V
Emitter-Base Voltage	V_{EBO}	6	V
Collector Current-Continuous	I_C	1	A
Collector Power Dissipation	P_C	0.5	W
Thermal Resistance Junction-ambient	$R_{\theta JA}$	250	$^\circ\text{C/W}$
Junction, Storage Temperature	T_J, T_{STG}	150, -55~150	$^\circ\text{C}$

ELECTRICAL CHARACTERISTICS ($T_A=25^\circ\text{C}$ unless otherwise specified)

Parameter	Symbol	Min.	Typ.	Max.	Unit	Test Conditions
Collector-Base Breakdown Voltage	$V_{(BR)CBO}$	120	-	-	V	$I_C=10\mu\text{A}, I_E=0$
Collector-Emitter Breakdown Voltage	$V_{(BR)CEO}$	60	-	-	V	$I_C=2\text{mA}, I_B=0$
Emitter-Base Breakdown Voltage	$V_{(BR)EBO}$	6	-	-	V	$I_E=10\mu\text{A}, I_C=0$
Collector Cut-off Current	I_{CBO}	-	-	0.1	μA	$V_{CB}=60\text{V}, I_E=0$
Emitter Cut-off Current	I_{EBO}	-	-	0.1	μA	$V_{EB}=6\text{V}, I_C=0$
DC Current Gain ¹	h_{FE1}	135	-	600		$V_{CE}=2\text{V}, I_C=100\text{mA}$
	h_{FE2}	81	-	-		$V_{CE}=2\text{V}, I_C=1\text{A}$
Collector-Emitter Saturation Voltage ¹	$V_{CE(sat)}$	-	-	0.3	V	$I_C=1\text{A}, I_B=50\text{mA}$
Base-Emitter Saturation Voltage ¹	$V_{BE(sat)}$	-	-	1.2	V	
Base-Emitter Voltage ¹	V_{BE}	0.6	-	0.7	V	$V_{CE}=2\text{V}, I_C=50\text{mA}$
Transition Frequency	f_T	100	-	-	MHz	$V_{CE}=2\text{V}, I_C=100\text{mA}$
Output Capacitance	C_{ob}	-	-	19	pF	$V_{CB}=10\text{V}, I_E=0, f=1\text{MHz}$
Turn on Time	t_{on}	-	0.07	-	μS	$V_{CC}=10\text{V}$ $I_C=100\text{mA}$ $I_{B1} = -I_{B2}=10\text{mA}$
Storage Time	t_s	-	0.95	-		
Fall Time	t_f	-	0.07	-		

Note:

1. Pulse Test: $PW \leq 350\mu\text{s}, \delta \leq 2\%$.

CHARACTERISTIC CURVES

