

RoHS Compliant Product
A suffix of "-C" specifies halogen & lead-free

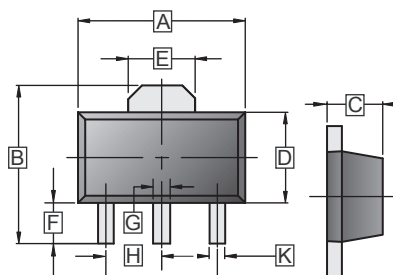
FEATURES

The BCP1213 is designed for using in power amplifier applications or power switching applications.

MARKING

Type Name → **NY** ← hFE Ranking

SOT-89



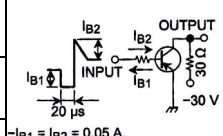
REF.	Millimeter		REF.	Millimeter	
	Min.	Max.		Min.	Max.
A	4.40	4.60	G	-	-
B	4.05	4.25	H	1.50	REF.
C	1.40	1.60	J	3.00	REF.
D	2.40	2.60	K	0.40	0.52
E	1.50	1.70	L	0.35	0.41
F	0.89	1.20			

ABSOLUTE MAXIMUM RATINGS at Ta = 25°C

Parameter	Symbol	Ratings	Unit
Collector-Base Voltage	V_{CB0}	-50	V
Collector-Emitter Voltage	V_{CEO}	-50	V
Emitter-Base Voltage	V_{EBO}	-5	V
Collector Current	I_C	-2	A
Base Current	I_B	-0.4	A
Collector Power Dissipation	P_C (Note 1)	500	mW
		1000	mW
Junction & Storage Temperature	T_J, T_{STG}	150, -55~150	°C

Note 1: Mounted on ceramic substrate (250mm²x0.8t)

ELECTRICAL CHARACTERISTICS at Ta = 25°C

Parameter	Symbol	Min.	Max.	Unit	Test Conditions
Collector-emitter breakdown voltage	$V_{(BR)CEO}$	-50	-	V	$I_C = -10$ mA, $I_B = 0$
Collector cut-off current	I_{CBO}	-	-100	nA	$V_{CB} = -50$ V, $I_E = 0$
Emitter cut-off current	I_{EBO}	-	-100	nA	$V_{EB} = -5$ V, $I_C = 0$
DC current gain.	$h_{FE(1)}$	70	240		$V_{CE} = -2$ V, $I_C = -0.5$ A
	$h_{FE(2)}$	20	-		$V_{CE} = -2$ V, $I_C = -2.0$ A
Base-emitter voltage	$V_{BE(sat)}$	-	-1.2	V	$I_C = -1$ A, $I_B = -0.05$ A
Collector-emitter saturation voltage	$V_{CE(sat)}$	-	-0.5	V	$I_C = -1$ A, $I_B = -0.05$ A
Transition frequency	f_T	120 TYP.		MHz	$V_{CE} = -2$ V, $I_C = -0.5$ A
Collector output capacitance	C_{OB}	40		pF	$V_{CB} = -10$ V, $I_E = 0$, $f = 1$ MHz
Switching time	Turn-on time	t_{ON}	0.1	µs	 <p>$-I_{B1} = I_{B2} = 0.05$ A, DUTY CYCLE ≤ 1%</p>
	Storage time	t_{STG}	1.0	µs	
	Fall time	t_F	0.1	µs	

CLASSIFICATION OF hFE

Rank	O	Y
hFE	70 – 140	120 - 240

CHARACTERISTIC CURVES

