

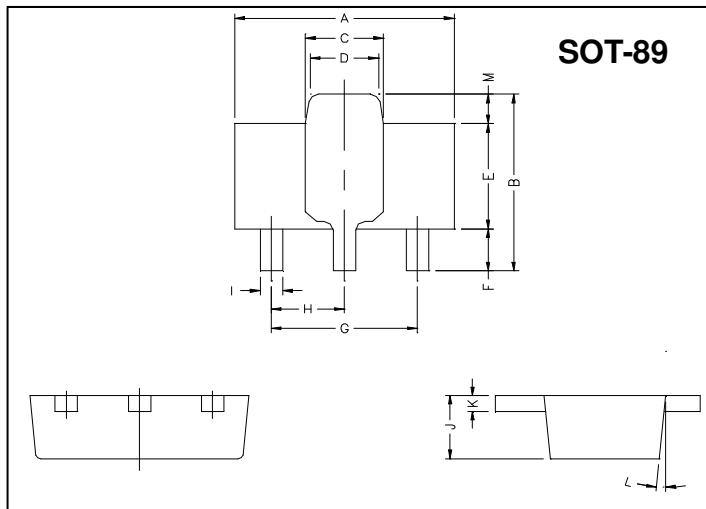
GM1213

PNP EPITAXIAL PLANAR TRANSISTOR

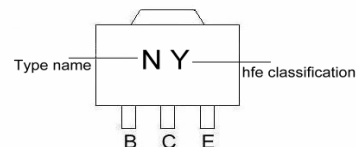
Description

The GM1213 is designed for using in power amplifier applications or power switching applications.

Package Dimensions



Marking :



REF.	Millimeter		REF.	Millimeter	
	Min.	Max.		Min.	Max.
A	4.4	4.6	G	3.00	REF.
B	4.05	4.25	H	1.50	REF.
C	1.50	1.70	I	0.40	0.52
D	1.30	1.50	J	1.40	1.60
E	2.40	2.60	K	0.35	0.41
F	0.89	1.20	L	5° TYP.	
			M	0.70 REF.	

Absolute Maximum Ratings $T_a=25^\circ\text{C}$

Parameter	Symbol	Ratings	Unit
Junction Temperature	T_j	+150	$^\circ\text{C}$
Storage Temperature	T_{stg}	-55 ~ +150	$^\circ\text{C}$
Collector to Base Voltage	V_{CBO}	-50	V
Collector to Emitter Voltage	V_{CEO}	-50	V
Emitter to Base Voltage	V_{EBO}	-5	V
Collector Current at	I_C	-2	A
Base current	I_B	-0.4	A
Collector Power Dissipation	P_C (Note 1)	500	mW
		1000	mW

Characteristics at $T_a = 25^\circ\text{C}$

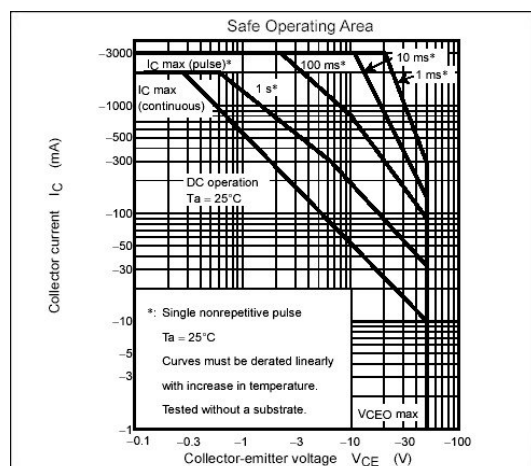
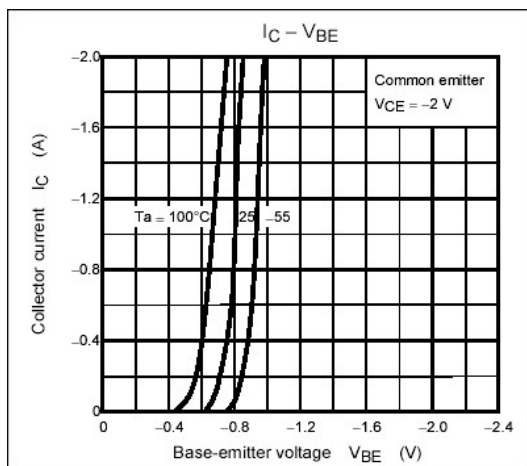
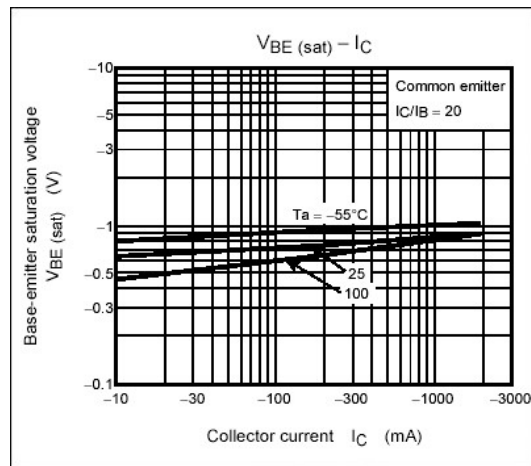
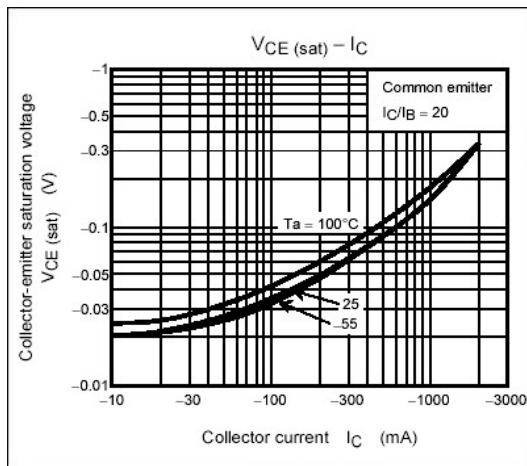
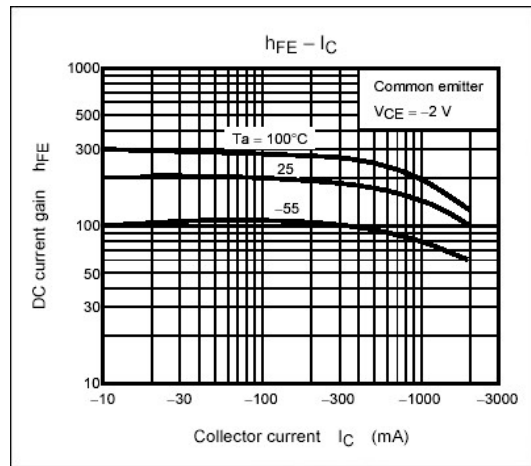
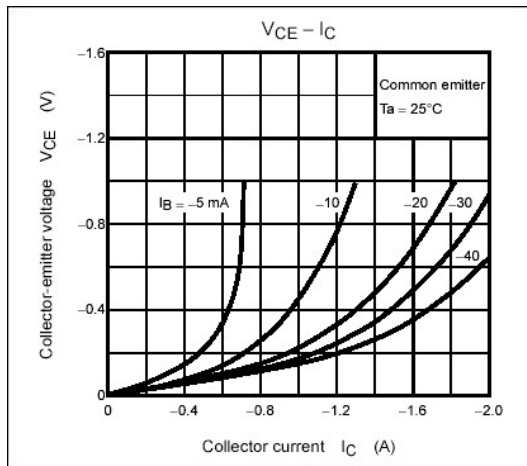
Note 1: Mounted on ceramic substrate (250mm²x0.8t)

Characteristics		Symbol	Min.	Typ.	Max.	Unit	Test Conditions
Collector cut-off current		I_{CBO}	-	-	-0.1	μA	$V_{CB}=-50\text{V}, I_E=0$
Emitter cut-off current		I_{EBO}	-	-	-0.1	μA	$V_{EB}=-5\text{V}, I_C=0$
Collector-emitter breakdown voltage		$V_{(BR)CEO}$	-50	-	-	V	$I_C=-10\text{mA}, I_B=0$
DC current gain		h_{FE1}	70	-	240		$V_{CE}=-2\text{V}, I_C=-0.5\text{A}$
		h_{FE2}	20	-	-		$V_{CE}=-2\text{V}, I_C=-2.0\text{A}$
Collector-emitter saturation voltage		$V_{CE(sat)}$	-	-	-0.5	V	$I_C=-1\text{A}, I_B=-0.05\text{A}$
Base-emitter saturation voltage		$V_{BE(sat)}$	-	-	-1.2	V	$I_C=-1\text{A}, I_B=-0.05\text{A}$
Transition frequency		f_T	-	120	-	MHz	$V_{CE}=-2\text{V}, I_C=0.5\text{A}$
Collector output capacitance		C_{ob}	-	40	-	Pf	$V_{CB}=-10\text{V}, I_E=0, f=1\text{MHz}$
Switching time	Turn-on time	t_{on}	-	0.1	-	μs	$-I_{B1} = I_{B2} = 0.05\text{A}$, DUTY CYCLE $\leq 1\%$
	Storage time	t_{stg}	-	1.0	-	μs	
	Fall time	t_f	-	0.1	-	μs	

Classification Of h_{FE1}

Rank	O	Y
Range	70-140	120-240

Characteristics Curve



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