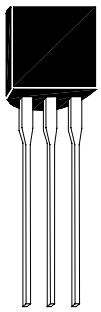
HE9012

PNP EPITAXIAL PLANAR TRANSISTOR



TO-92

Description

The HE9012 is designed for use in 1W output amplifier of portable radios in class B push-pull operation.

Features

- High total power dissipation (PT: 625mW)
- High collector current (IC: 500mA)
- Complementary to HE9013
- Excellent linearity

Absolute Maximum Ratings

- Maximum Temperatures
  Storage Temperature ..... -55 ~ +150 °C
  Junction Temperature ..... +150 °C Maximum
- Maximum Power Dissipation
  Total Power Dissipation (Ta=25°C)..... 625 mW
- Maximum Voltages and Currents (Ta=25°C)
  VCBO Collector to Base Voltage..... -40 V
  VCEO Collector to Emitter Voltage ..... -20 V
  VEBO Emitter to Base Voltage..... -5 V
  IC Collector Current..... -500 mA
  IBP Base Current..... -100 mA

Characteristics (Ta=25°C)

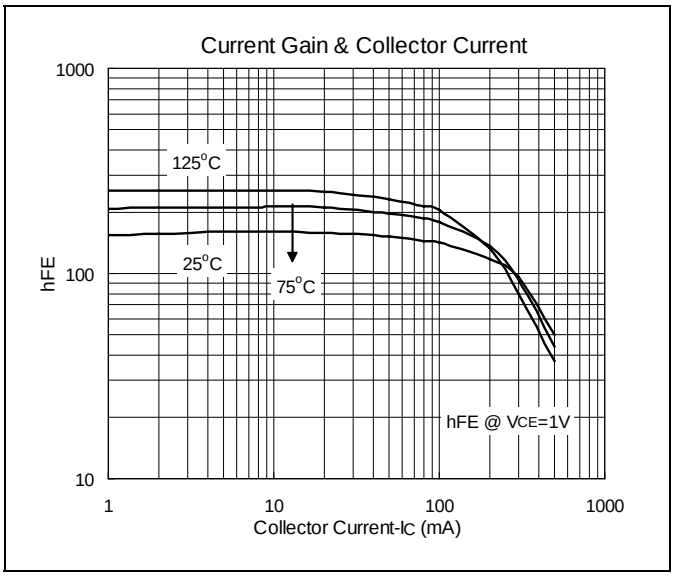
Symbol	Min.	Typ.	Max.	Unit	Test Conditions
BVCBO	-40	-	-	V	IC=-100uA, IE=0
BVCEO	-20	-	-	V	IC=-1mA, IB=0
BVEBO	-5	-	-	V	IE=-100uA, IC=0
ICBO	-	-	-100	nA	VCE=-25V, IE=0
IEBO	-	-	-100	nA	VEB=-3V, IC=0
*VCE(sat)	-	-	-0.6	V	IC=-500mA, IB=-50mA
*VBE(sat)	-	-	-1.2	V	IC=-500mA, IB=-50mA
VBE(on)	-	-	-0.9	V	VCE=-1V, IC=-10mA
*hFE1	112	180	300		VCE=-1V, IC=-50mA
*hFE2	40	-	-		VCE=-1V, IC=-500mA
Cob	-	-	8	pF	VCB=-10V, f=1MHz
fT	100	-	-	MHz	VCE=-1V, IC=-10mA, f=100MHz

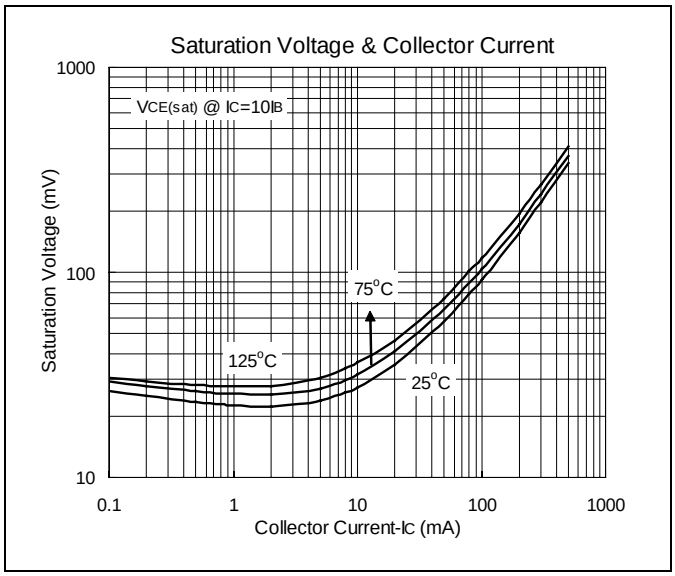
*Pulse Test: Pulse Width ≤380us, Duty Cycle≤2%

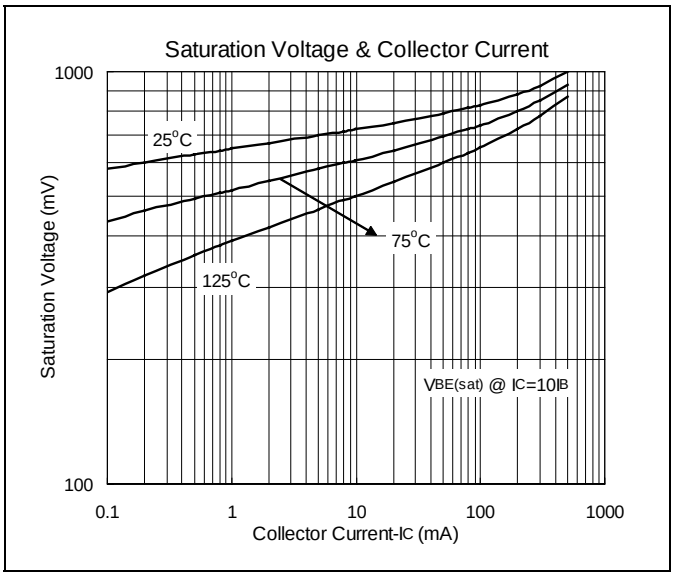
Classification on hFE1

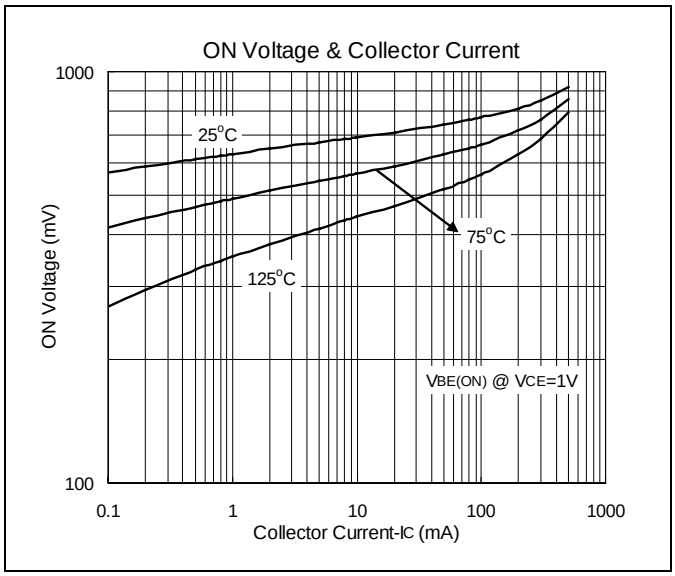
Rank	G	H	I1	I2
Range	112-166	144-202	176-246	214-300

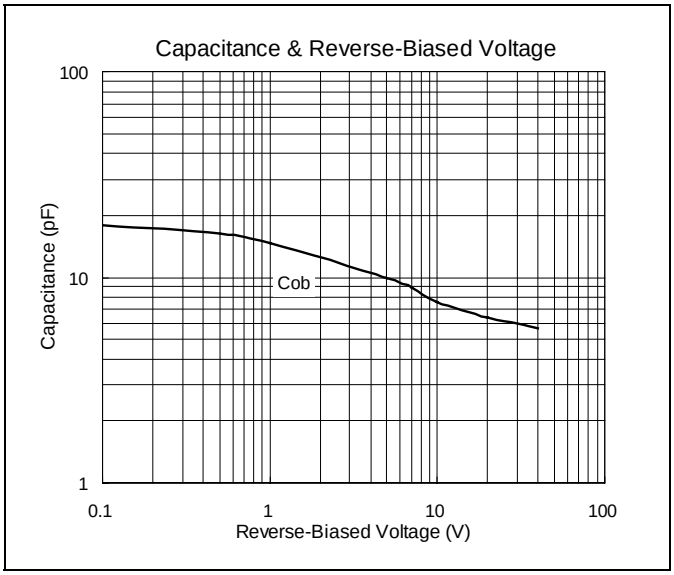
Characteristics Curve

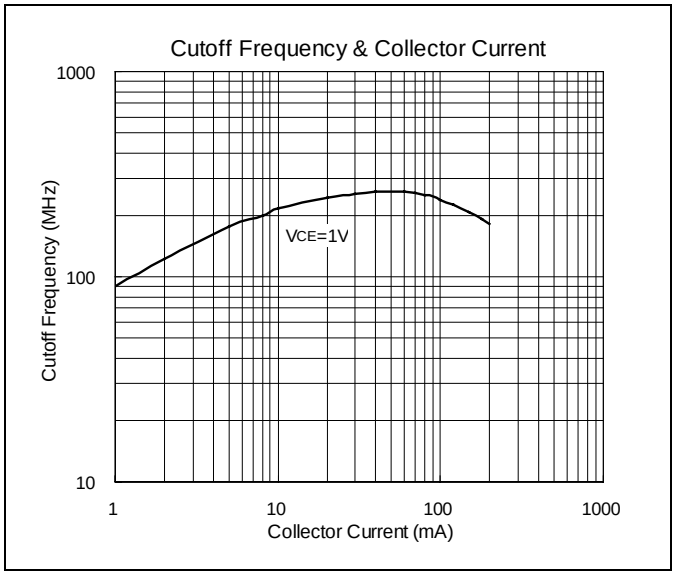


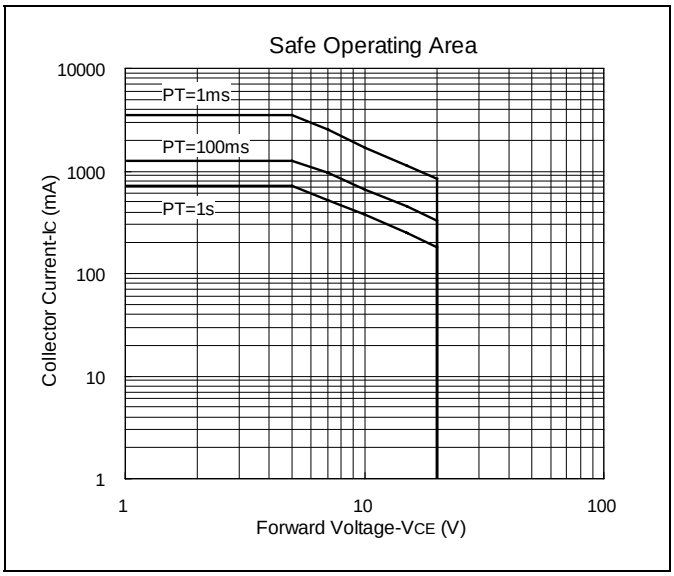


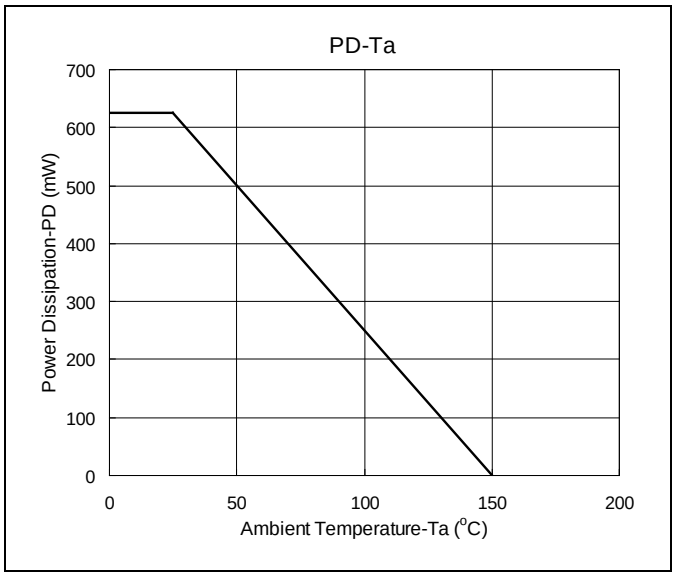




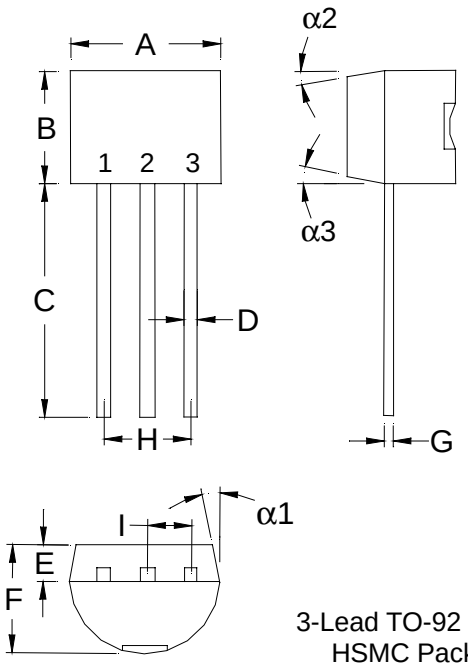




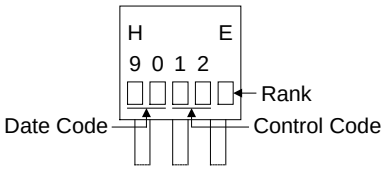

Safe Operating Area
10000
1000
100
10
1
PT=1ms
PT=100ms
PT=1s
Collector Current-IC (mA)
1
10
100
Forward Voltage-VCE (V)


PD-Ta
700
600
500
400
300
200
100
0
Power Dissipation-PD (mW)
0
50
100
150
200
Ambient Temperature-Ta (°C)

TO-92 Dimension



Marking:



Style: Pin 1.Emitter 2.Base 3.Collector

3-Lead TO-92 Plastic Package
HSMC Package Code: A

*: Typical

DIM	Inches		Millimeters		DIM	Inches		Millimeters	
	Min.	Max.	Min.	Max.		Min.	Max.	Min.	Max.
A	0.1704	0.1902	4.33	4.83	G	0.0142	0.0220	0.36	0.56
B	0.1704	0.1902	4.33	4.83	H	-	*0.1000	-	*2.54
C	0.5000	-	12.70	-	I	-	*0.0500	-	*1.27
D	0.0142	0.0220	0.36	0.56	α1	-	*5°	-	*5°
E	-	*0.0500	-	*1.27	α2	-	*2°	-	*2°
F	0.1323	0.1480	3.36	3.76	α3	-	*2°	-	*2°

Notes: 1.Dimension and tolerance based on our Spec. dated Apr. 25,1996.
2.Controlling dimension: millimeters.
3.Maximum lead thickness includes lead finish thickness, and minimum lead thickness is the minimum thickness of base material.
4.If there is any question with packing specification or packing method, please contact your local HSMC sales office.

Material:

- Lead: 42 Alloy; solder plating
- Mold Compound: Epoxy resin family, flammability solid burning class: UL94V-0

Head Office And Factory:

- **Head Office** (Hi-Sincerity Microelectronics Corp.): 10F.,No. 61, Sec. 2, Chung-Shan N. Rd. Taipei Taiwan R.O.C.
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- **Factory 1:** No. 38, Kuang Fu S. Rd., Fu-Kou Hsin-Chu Industrial Park Hsin-Chu Taiwan. R.O.C
  Tel: 886-3-5983621~5 Fax: 886-3-5982931

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