

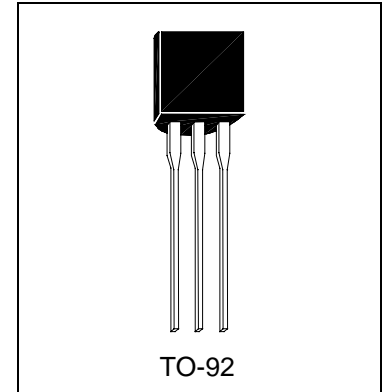


HSD1616A

NPN EPITAXIAL PLANAR TRANSISTOR

Description

The HSD1616A is designed for audio frequency power amplifier and medium speed switching applications.



Absolute Maximum Ratings

- Maximum Temperatures
 - Storage Temperature -55 ~ +150 °C
 - Junction Temperature 150 °C Maximum
- Maximum Power Dissipation
 - Total Power Dissipation (Ta=25°C) 750 mW
- Maximum Voltages and Currents (Ta=25°C)
 - VCBO Collector to Base Voltage 120 V
 - VCEO Collector to Emitter Voltage 60 V
 - VEBO Emitter to Base Voltage 6 V
 - IC Collector Current (DC) 1 A
 - IC Collector Current *(Pulse) 2 A

Characteristics (Ta=25°C)

Symbol	Min.	Typ.	Max.	Unit	Test Conditions
BVCBO	120	-	-	V	IC=100uA
BVCEO	60	-	-	V	IC=1mA
BVEBO	6	-	-	V	IE=10uA
ICBO	-	-	100	nA	VCB=60V
IEBO	-	-	100	nA	VEB=6V
*VCE(sat)	-	150	300	mV	IC=1A, IB=50mA
*VBE(sat)	-	0.9	1.2	V	IC=1A, IB=50mA
VBE(on)	600	-	700	mV	VCE=2V, IC=50mA
*hFE1	135	-	600		VCE=2V, IC=100mA
*hFE2	81	-	-		VCE=2V, IC=1A
fT	100	160	-	MHz	VCE=2V, IC=100mA
Cob	-	-	19	pF	IE=0, VCB=10V, f=1MHz
ton	-	0.07	-	uS	VCE=10V, IC=100mA
ts	-	0.95	-	uS	IB1=-IB2=10mA
tf	-	0.07	-	uS	VBE(off)=-2~-3V

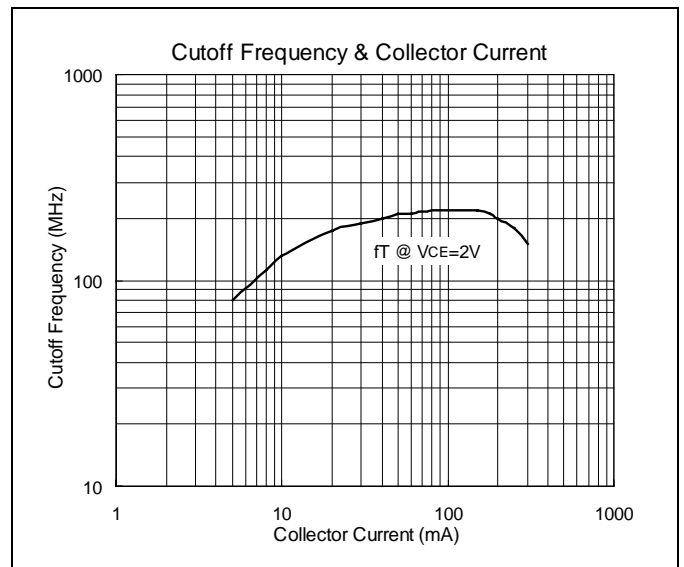
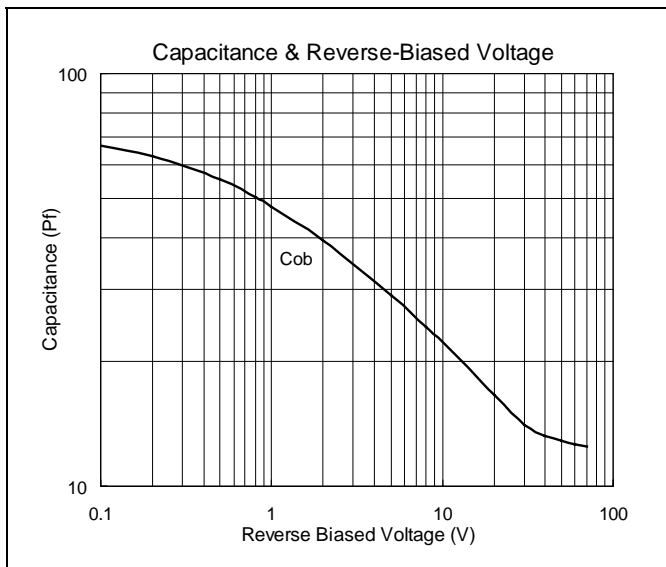
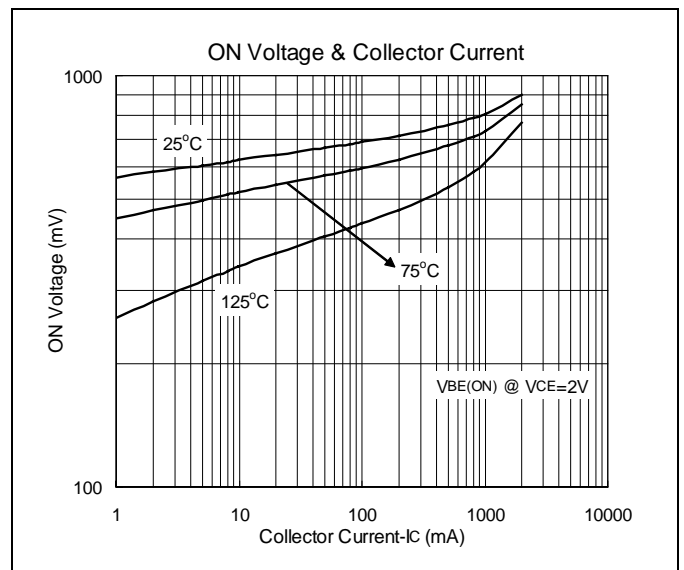
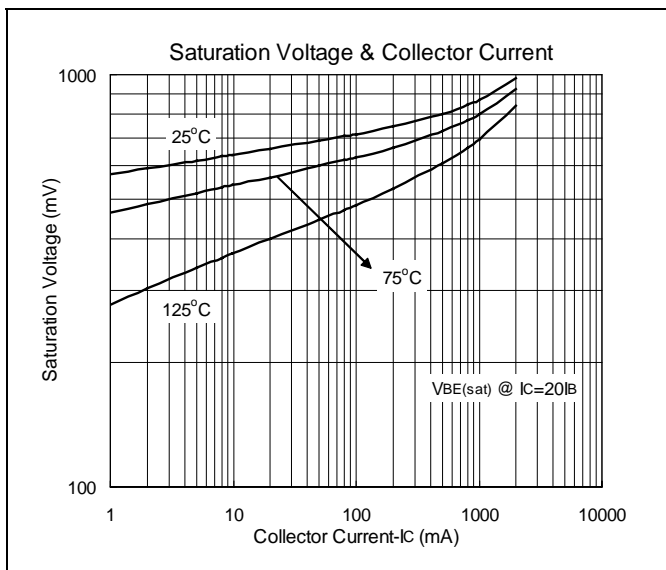
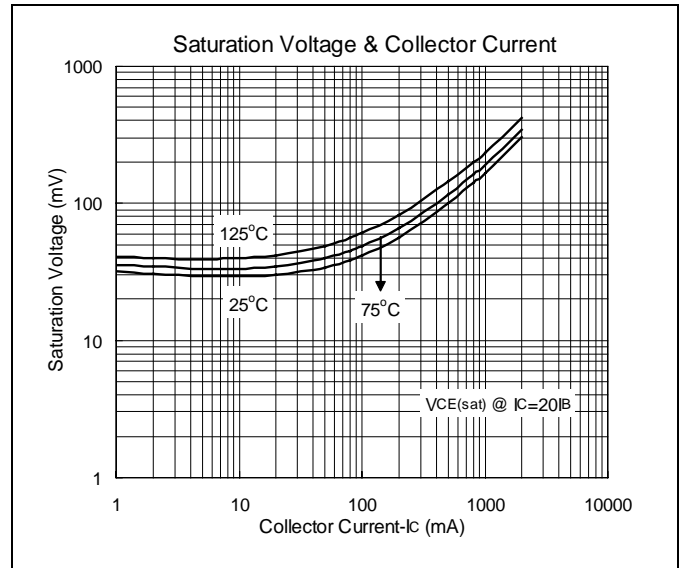
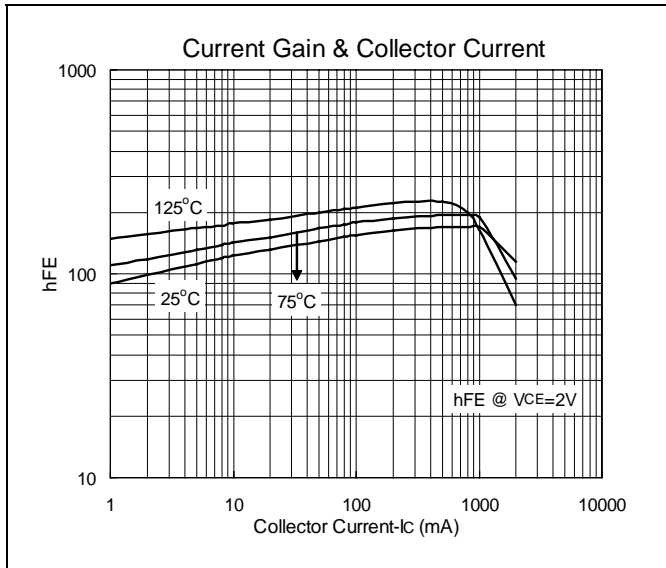
*Pulse Test: Pulse Width ≤380us, Duty Cycle≤2%

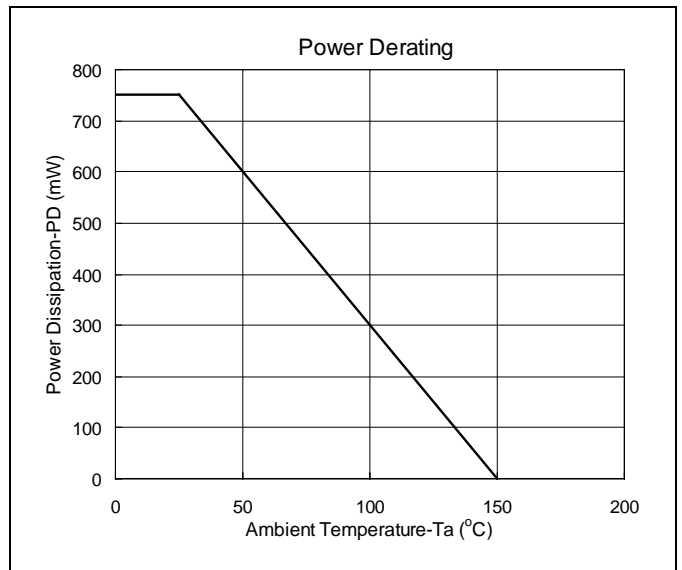
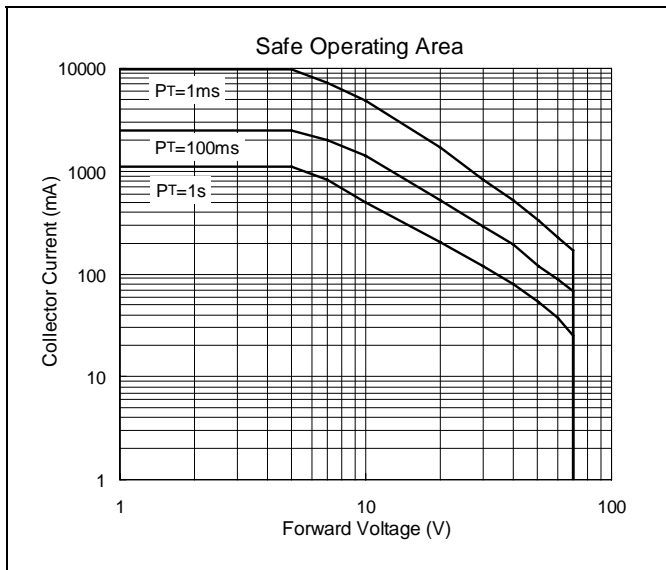
Classification of hFE1

Rank	Y	G	L
Range	135-270	200-400	300-600



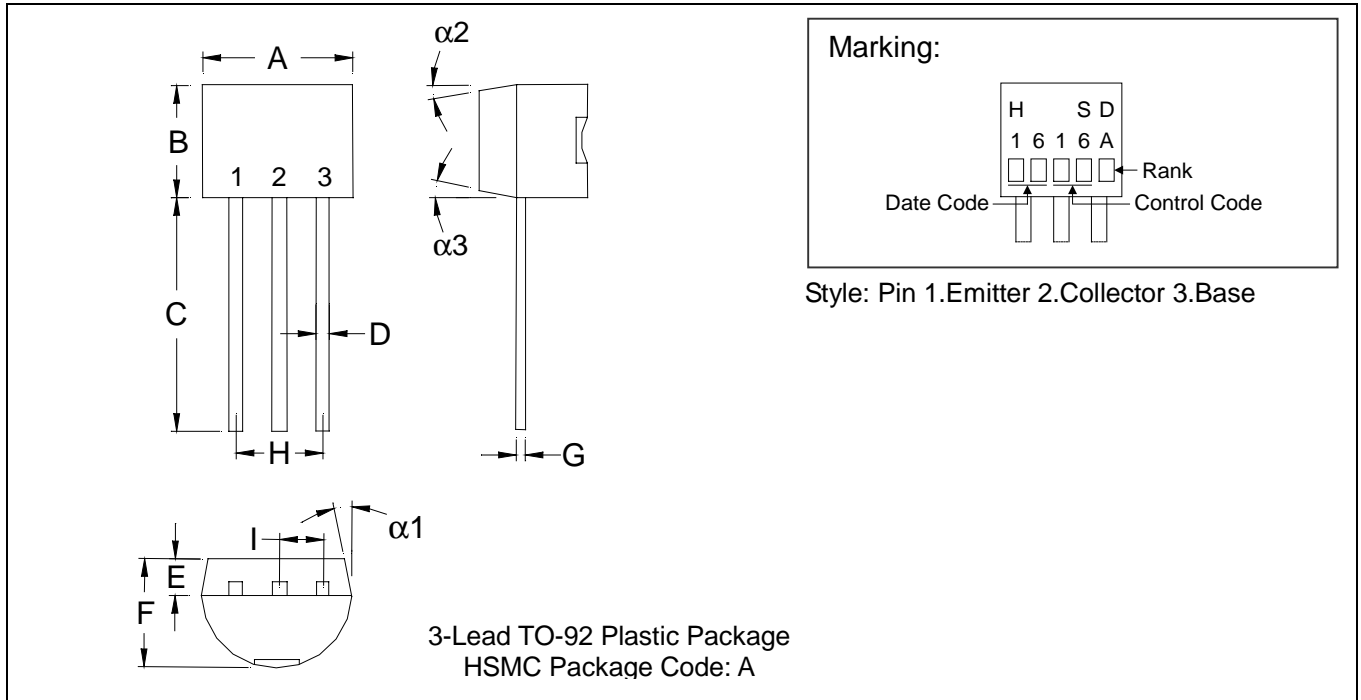
Characteristics Curve







TO-92 Dimension



*: 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	$\alpha 1$	-	*5°	-	*5°
E	-	*0.0500	-	*1.27	$\alpha 2$	-	*2°	-	*2°
F	0.1323	0.1480	3.36	3.76	$\alpha 3$	-	*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

Important Notice:

- All rights are reserved. Reproduction in whole or in part is prohibited without the prior written approval of HSMC.
- HSMC reserves the right to make changes to its products without notice.
- **HSMC semiconductor products are not warranted to be suitable for use in Life-Support Applications, or systems.**
- HSMC assumes no liability for any consequence of customer product design, infringement of patents, or application assistance.

Head Office And Factory:

- **Head Office** (Hi-Sincerity Microelectronics Corp.): 10F., No. 61, Sec. 2, Chung-Shan N. Rd. Taipei Taiwan R.O.C.
 Tel: 886-2-25212056 Fax: 886-2-25632712, 25368454
- **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



LittleDiode supplies new, hard to find or obsolete electronic components and semiconductors all over the world.

With over two million different components listed you are sure to find the part you need.

Feel free to visit us today at our online store:

LittleDiode.com

Looking forward to providing you with the best possible service.