HI-SINCERITY
MICROELECTRONICS CORP.

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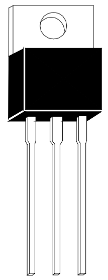
HSD313

NPN EPITAXIAL PLANAR TRANSISTOR



TO-220

Description

The HSD313 is designed for use in general purpose amplifier and switching applications.

Absolute Maximum Ratings (Ta=25°C)

- Maximum Temperatures
  Storage Temperature .... -50 ~ +150 °C
  Junction Temperature .... +150 °C Maximum
- Maximum Power Dissipation
  Total Power Dissipation (Ta=25°C) .... 2 W
  Total Power Dissipation (Tc=25°C) .... 30 W
- Maximum Voltages and Currents
  BVCBO Collector to Base Voltage .... 60 V
  BVCEO Collector to Emitter Voltage .... 60 V
  BVEBO Emitter to Base Voltage .... 5 V
  IC Collector Current .... 3 A

Characteristics (Ta=25°C)

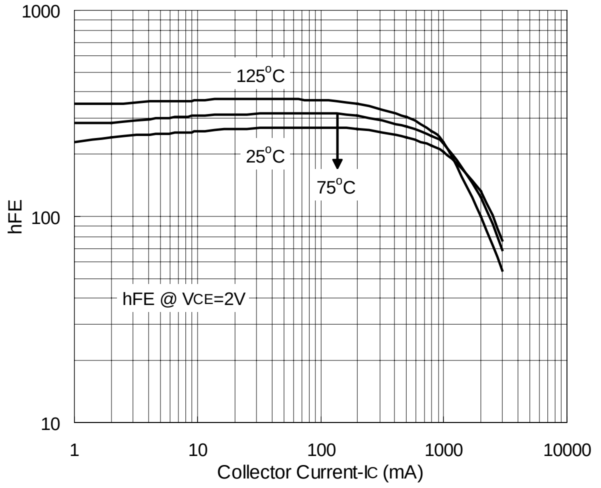
Symbol	Min.	Typ.	Max.	Unit	Test Conditions
BVCBO	60	-	-	V	IC=1mA, IE=0
BVCEO	60	-	-	V	IC=10mA, IB=0
BVEBO	5	-	-	V	IE=100uA, IC=0
ICBO	-	-	0.1	mA	VCB=20V, IE=0
ICEO	-	-	5	mA	VCE=60V, IB=0
IEBO	-	-	1	mA	VEB=4V, IC=0
*VCE(sat)	-	-	1	V	IC=2A, IB=0.2A
*VBE(on)	-	-	1.5	V	IC=1A, VCE=2V
*hFE1	40	-	320		IC=1A, VCE=2V
*hFE2	40	-	-		IC=0.1A, VCE=2V
ft	-	8	-	V	VCE=5V, IC=0.5A

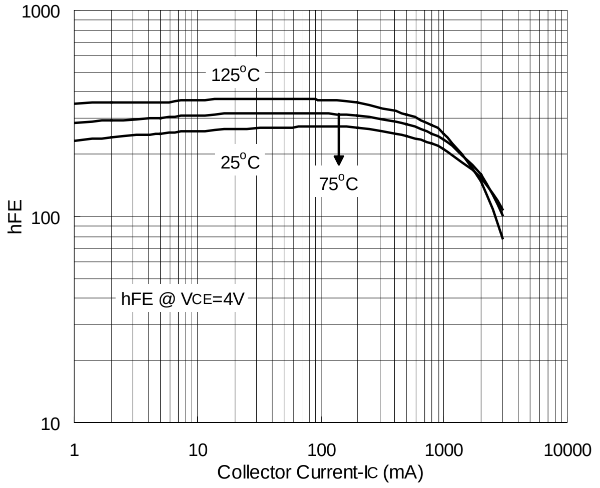
*Pulse Test: Pulse Width ≤380us, Duty Cycle≤2%

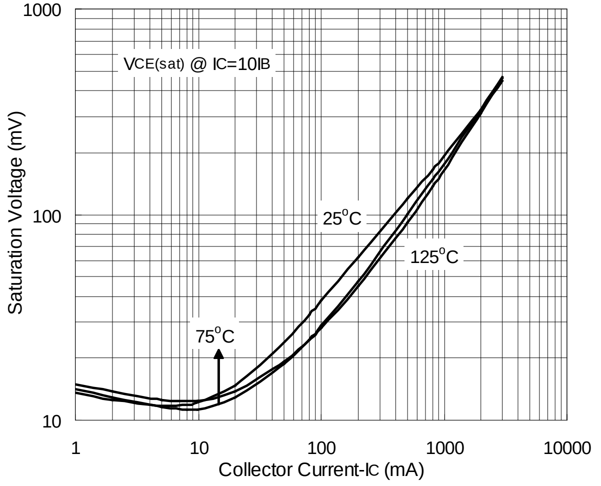
Classification Of hFE1

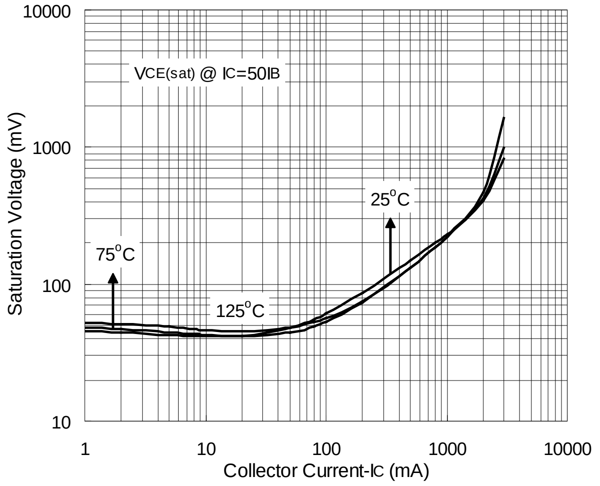
Rank	C	D	E	F
hFE	40-80	60-120	100-200	160-320

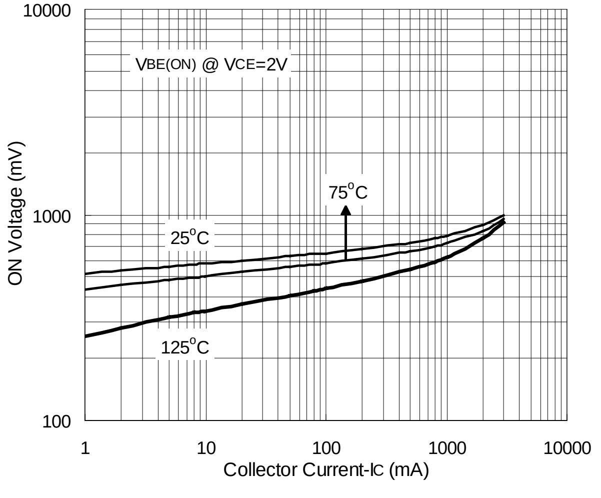
Characteristics Curve

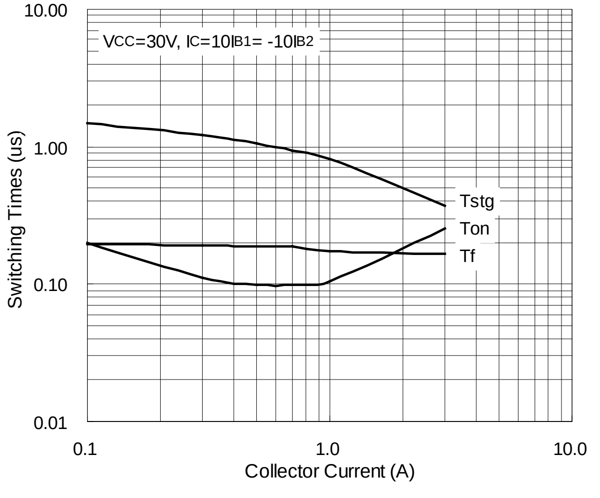

Current Gain & Collector Current

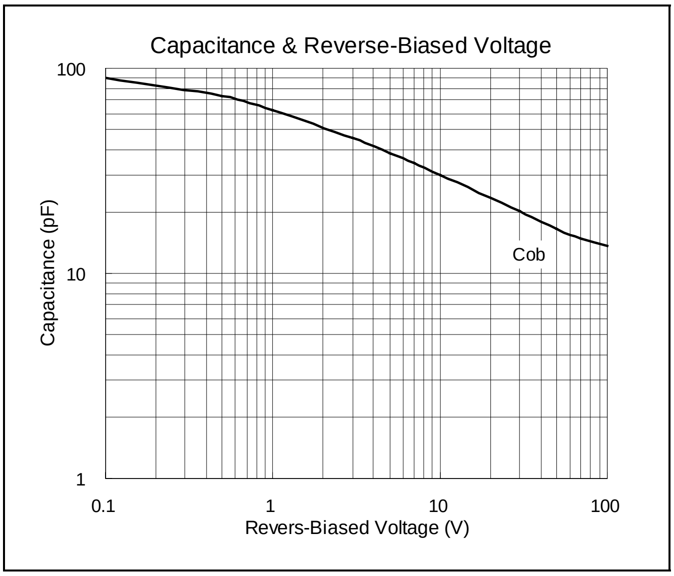

Current Gain & Collector Current

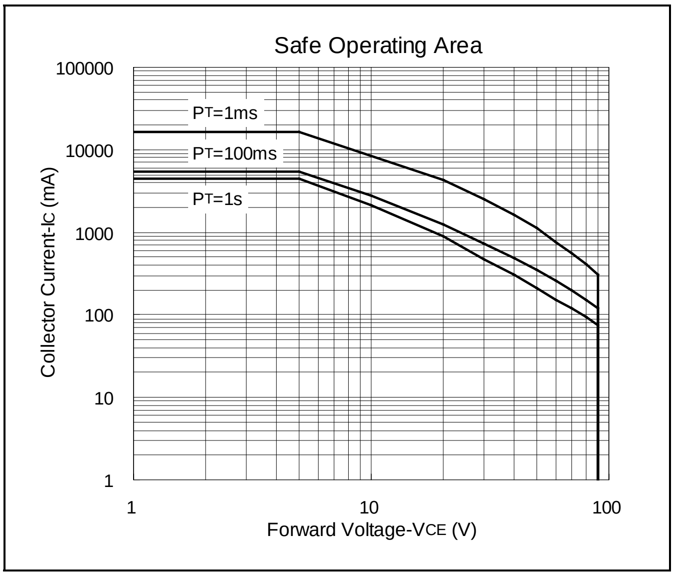

Saturation Voltage & Collector Current

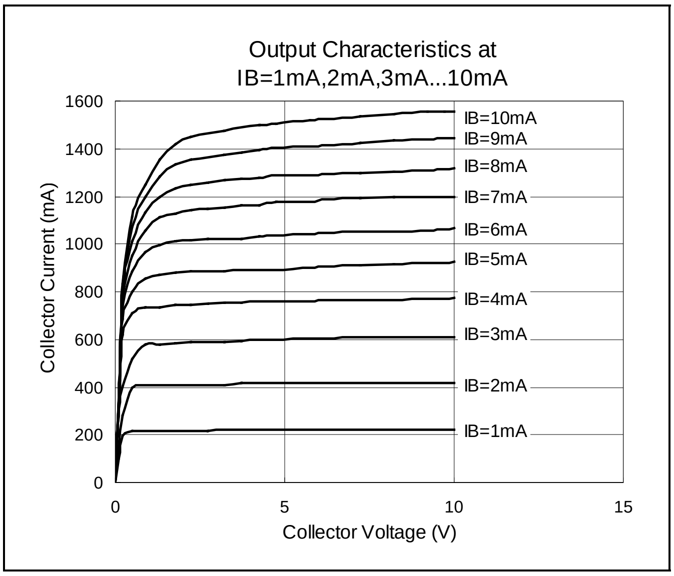

Saturation Voltage & Collector Current


ON Voltage & Collector Current

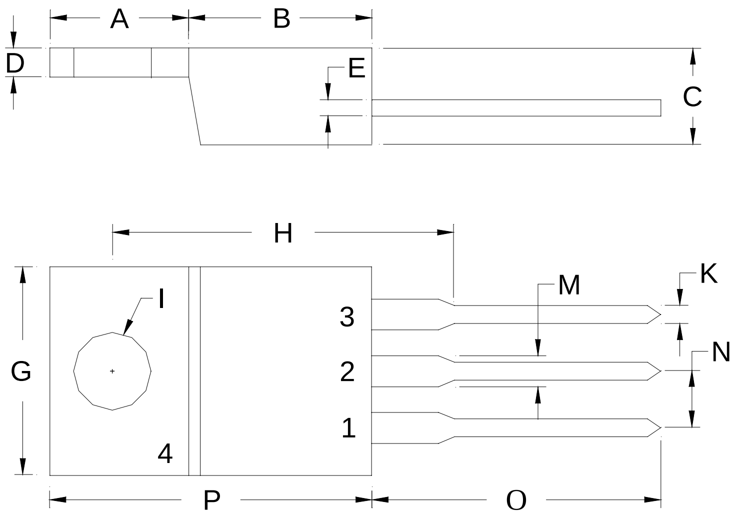

Switching Time & Collector Current


Capacitance & Reverse-Biased Voltage


Safe Operating Area

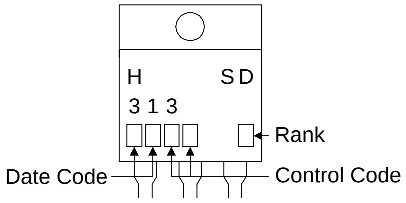

Output Characteristics at
IB=1mA,2mA,3mA...10mA

TO-220AB Dimension



3-Lead TO-220AB Plastic Package
HSMC Package Code: E

Marking:



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

*: Typical

DIM	Inches		Millimeters		DIM	Inches		Millimeters	
	Min.	Max.	Min.	Max.		Min.	Max.	Min.	Max.
A	0.2197	0.2949	5.58	7.49	I	-	*0.1508	-	*3.83
B	0.3299	0.3504	8.38	8.90	K	0.0295	0.0374	0.75	0.95
C	0.1732	0.185	4.40	4.70	M	0.0449	0.0551	1.14	1.40
D	0.0453	0.0547	1.15	1.39	N	-	*0.1000	-	*2.54
E	0.0138	0.0236	0.35	0.60	O	0.5000	0.5618	12.70	14.27
G	0.3803	0.4047	9.66	10.28	P	0.5701	0.6248	14.48	15.87
H	-	*0.6398	-	*16.25					

Notes: 1.Dimension and tolerance based on our Spec. dated Sep. 07,1997.
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

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