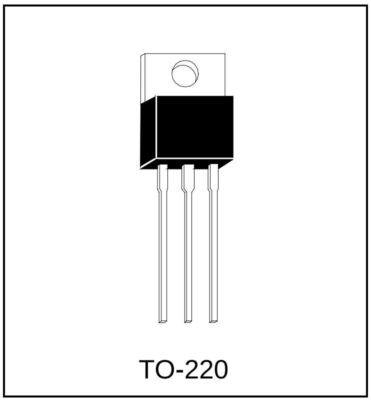
HI-SINCERITY
MICROELECTRONICS CORP.

Spec. No. : HE200207
Issued Date : 1993.04.12
Revised Date : 2002.08.14

HMJE13007

NPN EPITAXIAL PLANAR TRANSISTOR



Description

- High Voltage, High Speed Power Switch
- Switch Regulators
- PWM Inverters and Motor Controls
- Solenoid and Relay Drivers
- Deflection Circuits

Absolute Maximum Ratings (Ta=25°C)

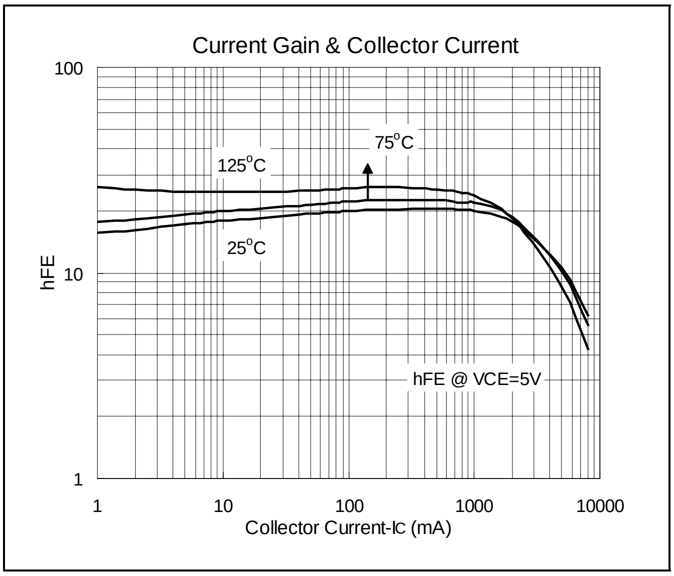
- Maximum Temperatures
  Storage Temperature .... -50 ~ +150 °C
  Junction Temperature .... 150 °C Maximum
- Maximum Power Dissipation
  Total Power Dissipation (Tc=25°C) .... 80 W
- Maximum Voltages and Currents (Ta=25°C)
  VCEX Collector to Emitter Voltage .... 700 V
  VCEO Collector to Emitter Voltage .... 400 V
  VEBO Emitter to Base Voltage .... 9 V
  IC Collector Current .... Continuous 8 A
  IB Base Current .... Continuous 4 A

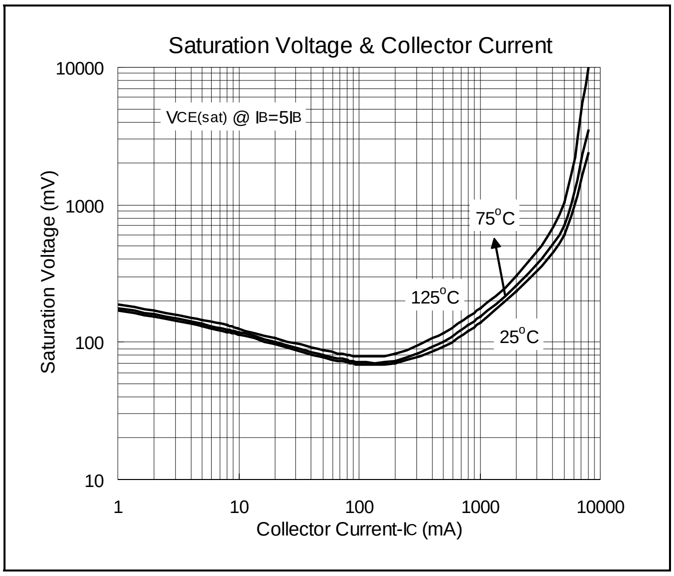
Characteristics (Ta=25°C)

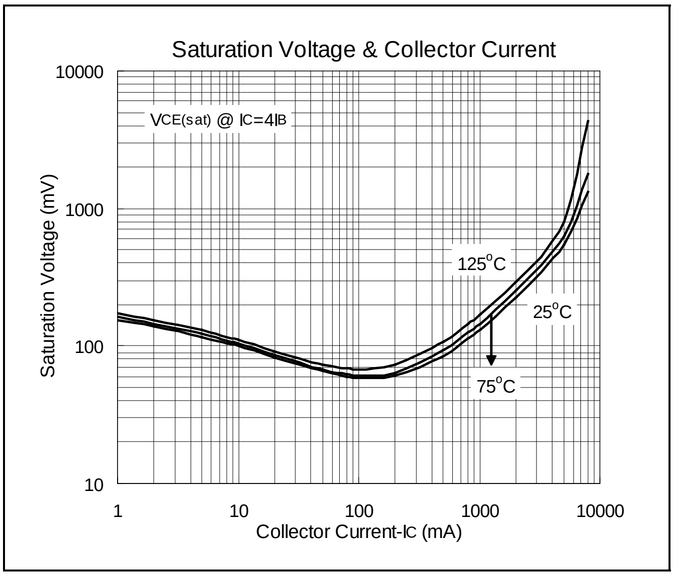
Symbol	Min.	Typ.	Max.	Unit	Test Conditions
BVCEX	700	-	-	V	IC=1mA, VBE(off)=1.5V
BVCEO	400	-	-	V	IC=10mA
IEBO	-	-	100	uA	VEB=9V
ICEX	-	-	100	uA	VCE=700V, VBE(off)=1.5V
*VCE(sat)1	-	-	1	V	IC=2A, IB=0.4A
*VCE(sat)2	-	-	2	V	IC=5A, IB=1A
*VCE(sat)3	-	-	3	V	IC=8A, IB=2A
*VBE(sat)	-	-	1.2	V	IC=2A, IB=0.4A
*VBE(sat)	-	-	1.6	V	IC=5A, IB=1A
*hFE1	10	-	-		IC=2A, VCE=5V
*hFE2	6	-	-		IC=5A, VCE=5V
*hFE3	10	-	30		IC=0.5A, VCE=5V

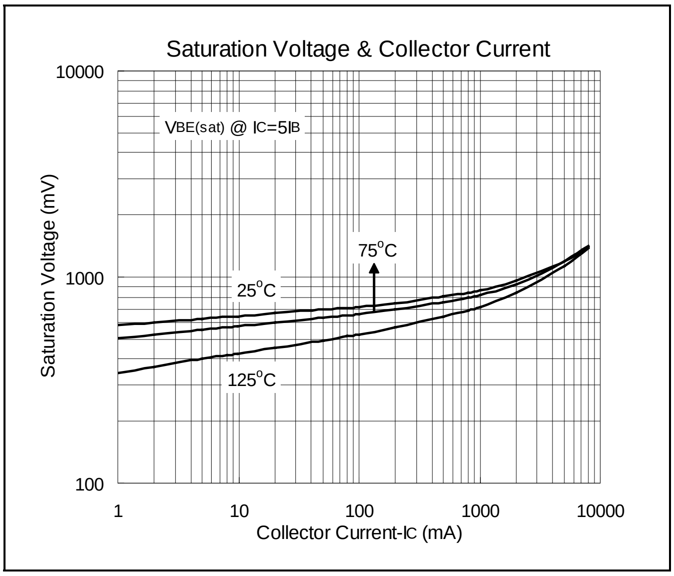
*Pulse Test: Pulse Width ≤380us, Duty Cycle≤2%

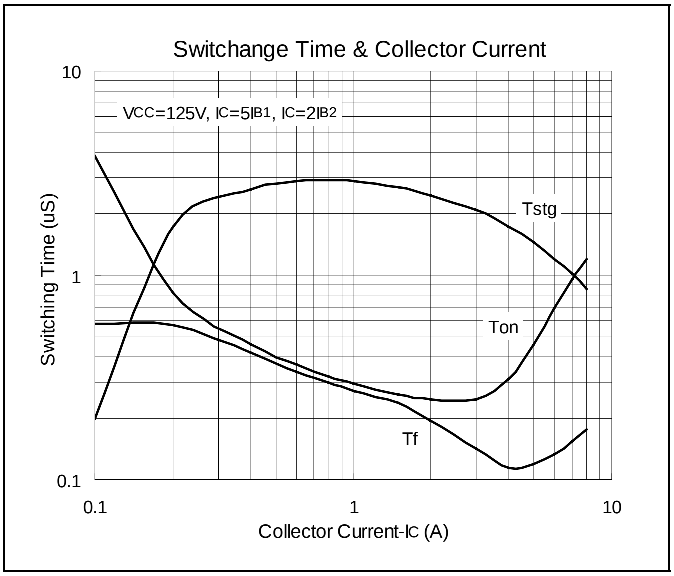
Characteristics Curve

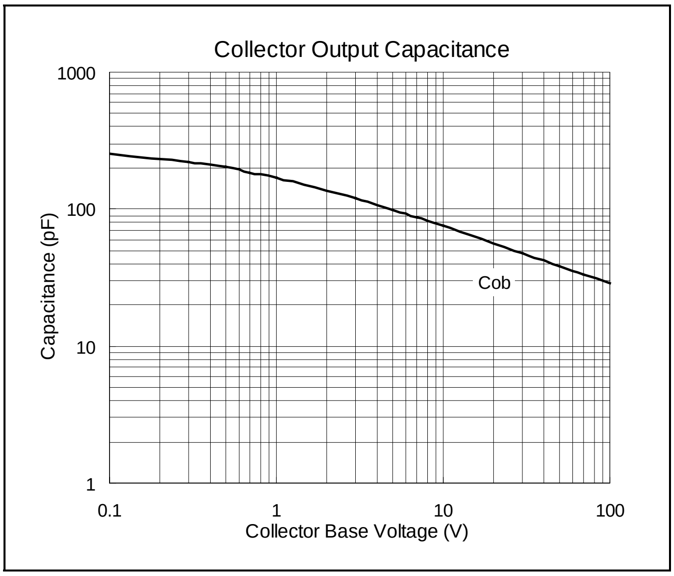

Current Gain & Collector Current

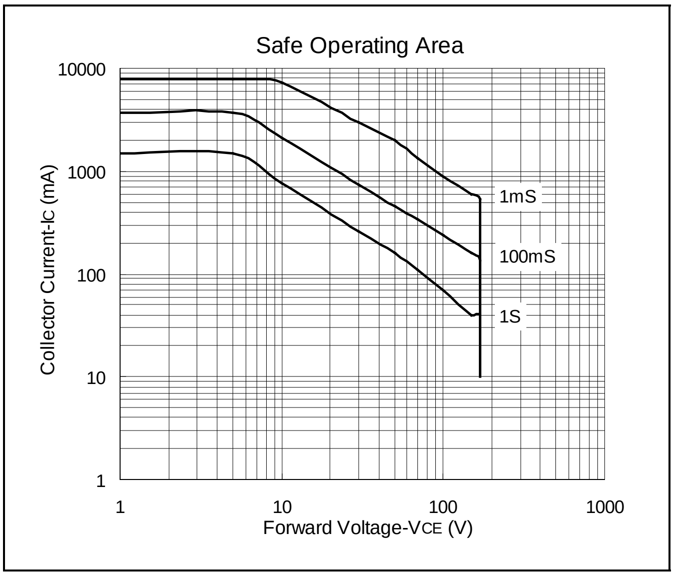

Saturation Voltage & Collector Current


Saturation Voltage & Collector Current

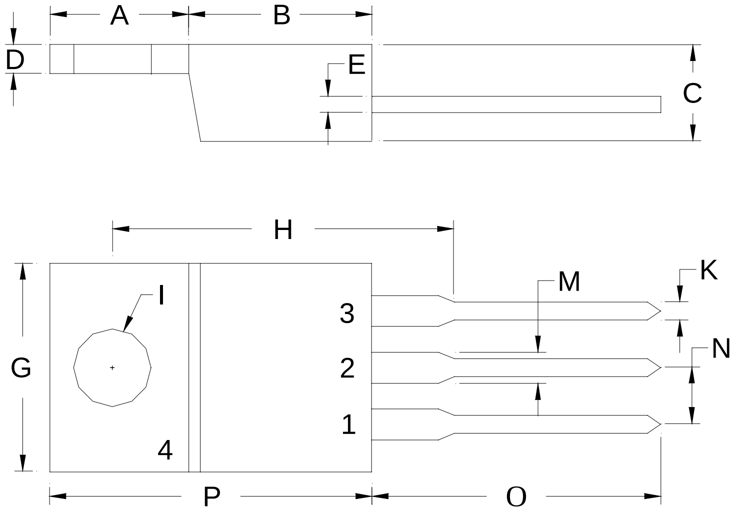

Saturation Voltage & Collector Current


Switchange Time & Collector Current


Collector Output Capacitance

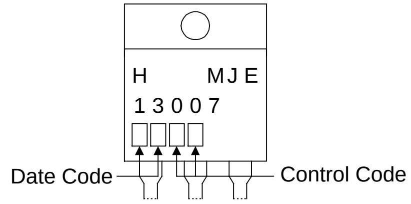

Safe Operating Area
10000
1000
100
10
1
Collector Current-Ic (mA)
1mS
100mS
1S
1
10
100
1000
Forward Voltage-VCE (V)

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

Important Notice:

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