

## Features

- Halogen Free. "Green" Device (Note 1)
- Moisture Sensitivity Level 1
- Epoxy Meets UL 94 V-0 Flammability Rating
- Lead Free Finish/RoHS Compliant ("P" Suffix Designates RoHS Compliant. See Ordering Information)

## Maximum Ratings @ 25°C Unless Otherwise Specified

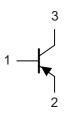
- Operating Junction Temperature Range: -55°C to +150°C
- Storage Temperature Range: -55°C to +150°C
- Thermal Resistance: 625°C/W Junction to Ambient

| Parameter                    | Symbol           | Rating | Unit |
|------------------------------|------------------|--------|------|
| Collector-Base Voltage       | V <sub>CBO</sub> | -50    | V    |
| Collector-Emitter Voltage    | V <sub>CEO</sub> | -45    | V    |
| Emitter-Base Voltage         | V <sub>EBO</sub> | -5     | V    |
| Continuous Collector Current | Ι <sub>C</sub>   | -100   | mA   |
| Power Dissipation            | P <sub>D</sub>   | 200    | mW   |

Note: 1. Halogen free "Green" products are defined as those which contain <900ppm bromine, <900ppm chlorine (<1500ppm total Br + Cl) and <1000ppm antimony compounds.

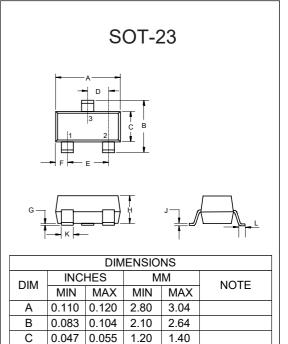
#### Marking: M6

### **Internal Structure**





# PNP Silicon Plastic-Encapsulate Transistor



0.85

1.70

0.45

0.01

0.90

0.08

0.30

Suggested Solder Pad Layout

0.037

1.05

2.10

0.60

0.15

1.10

0.18

0.51

0.50

2.000

inches mm

D

Е

F

G

Н

J

Κ

L

0.034 0.041

0.067 0.083

0.018 0.024

0.0004 0.006

0.035 0.043

0.003 0.007

0.012 0.020

0.007 0.020 0.20

0.037 0.950



# Electrical Characteristics @ $T_A\!\!=\!\!25^\circ C$ Unless Otherwise Specified

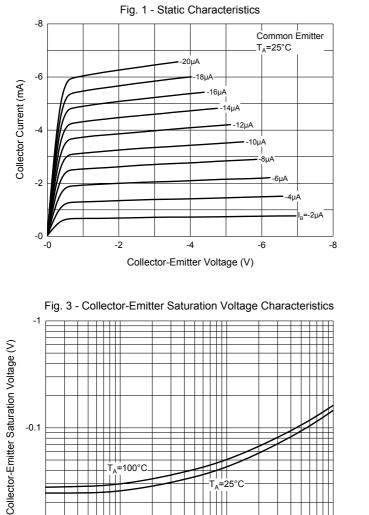
| Parameter                            | Symbol               | Min | Тур | Max  | Units | Conditions   |
|--------------------------------------|----------------------|-----|-----|------|-------|--|
| Collector-Base Breakdown Voltage     | V <sub>(BR)CBO</sub> | -50 |     |      | V     | Ι <sub>C</sub> =-100μΑ, Ι <sub>E</sub> =0            |
| Collector-Emitter Breakdown Voltage  | V <sub>(BR)CEO</sub> | -45 |     |      | V     | I <sub>C</sub> =-1mA, I <sub>B</sub> =0              |
| Emitter-Base Breakdown Voltage       | V <sub>(BR)EBO</sub> | -5  |     |      | V     | Ι <sub>Ε</sub> =-100μΑ, Ι <sub>C</sub> =0            |
| Collector-Base Cutoff Current        | I <sub>CBO</sub>     |     |     | -0.1 | μA    | V <sub>CB</sub> =-50V, I <sub>E</sub> =0             |
| Emitter-Base Cutoff Current          | I <sub>EBO</sub>     |     |     | -0.1 | μA    | V <sub>EB</sub> =-5V, I <sub>C</sub> =0              |
| DC Current Gain                      | h <sub>FE(1)</sub>   | 200 |     | 1000 |       | V <sub>CE</sub> =-5V, I <sub>C</sub> =-1mA           |
| Collector-Emitter Saturation Voltage | V <sub>CE(sat)</sub> |     |     | -0.3 | V     | I <sub>C</sub> =-100mA, I <sub>B</sub> =-10mA        |
| Base-Emitter Saturation Voltage      | V <sub>BE(sat)</sub> |     |     | -1.0 | V     | I <sub>C</sub> =-100mA, I <sub>B</sub> =-10mA        |
| Transition Frequency                 | f <sub>T</sub>       | 150 |     |      | MHz   | V <sub>CE</sub> =-5V, I <sub>C</sub> =-10mA, f=30MHz |

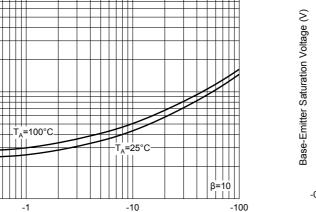
# Classification of h<sub>FE(1)</sub>

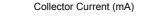
| Rank  | L       | Н        |
|-------|---------|----------|
| Range | 200-450 | 450-1000 |

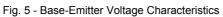


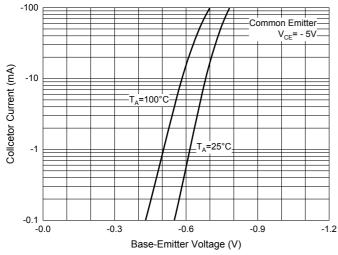
# **Curve Characteristics**











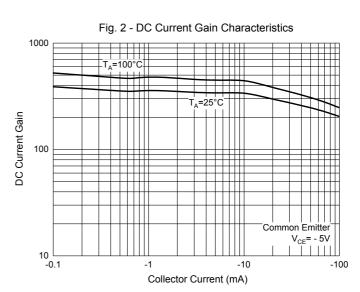


Fig. 4 - Base-Emitter Saturation Voltage Characteristics

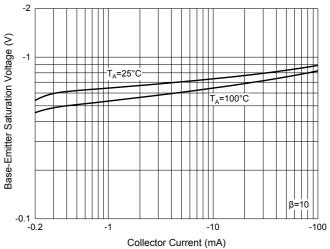
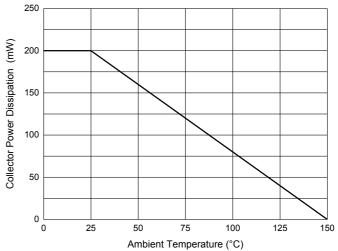


Fig. 6 - Collector Power Derating Curve



-0.01 -0.2





## **Ordering Information**

|                | Device | Packing               |
|----------------|--------|-----------------------|
| Part Number-TP |        | Tape&Reel: 3Kpcs/Reel |

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