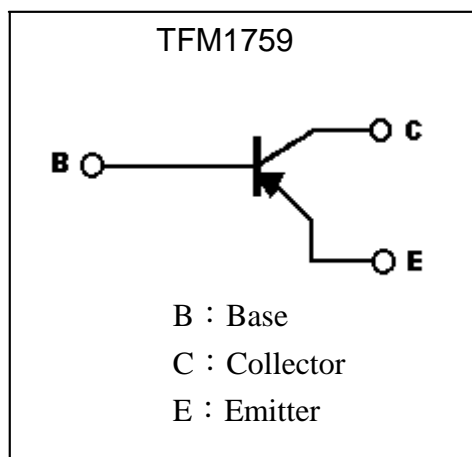


TFM1759

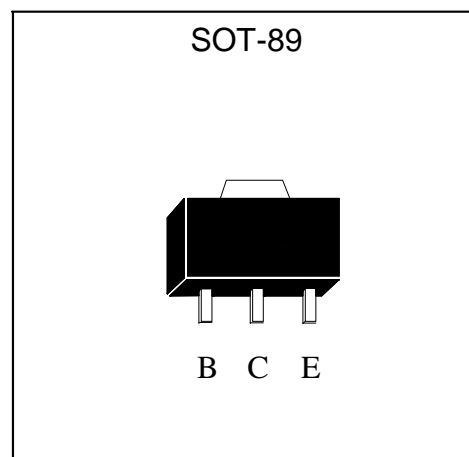
Description

- High breakdown voltage. ($V_{CE0}=-400V$)
- Low saturation voltage, typically $V_{CE(sat)} = -0.07V$ at $I_C/I_B = -10mA/-1mA$.
- Wide SOA (safe operation area).
- Complementary to BTC4505M3.

Symbol



Outline



Absolute Maximum Ratings (Ta=25°C)

| Parameter | Symbol | Limits | Unit |
|---|-----------------|---------------|------|
| Collector-Base Voltage | V_{CBO} | -400 | V |
| Collector-Emitter Voltage | V_{CEO} | -400 | V |
| Emitter-Base Voltage | V_{EBO} | -6 | V |
| Collector Current | I_C | -300 | mA |
| Power Dissipation | P_d | 0.6 | W |
| | | 1 (Note 1) | W |
| | | 2 (Note 2) | W |
| Thermal Resistance, Junction to Ambient | $R_{\theta JA}$ | 208 | °C/W |
| | | 125 (Note 1) | °C/W |
| | | 62.5 (Note 2) | °C/W |
| Junction Temperature | T_j | 150 | °C |
| Storage Temperature | T_{stg} | -55~+150 | °C |

Note : 1.When mounted on FR-4 PCB with area measuring 10×10×1 mm
 2.When mounted on ceramic with area measuring 40×40×1 mm



Characteristics (Ta=25°C)

| Symbol | Min. | Typ. | Max. | Unit | Test Conditions |
|-------------------------|------|------|------|------|---|
| BV _{CB0} | -400 | - | - | V | I _C =-50μA |
| BV _{CEO} | -400 | - | - | V | I _C =-1mA |
| BV _{EBO} | -6 | - | - | V | I _E =-50μA |
| I _{CB0} | - | - | -10 | μA | V _{CB} =-400V |
| I _{EBO} | - | - | -10 | μA | V _{EB} =-6V |
| I _{CES} | - | - | -10 | μA | V _{CB} =-400V |
| V _{CE(sat) 1} | - | - | -0.2 | V | I _C =-1mA, I _B =-0.1mA |
| *V _{CE(sat) 2} | - | - | -0.3 | V | I _C =-10mA, I _B =-1mA |
| *V _{CE(sat) 3} | - | - | -0.6 | V | I _C =-50mA, I _B =-5mA |
| *V _{BE(sat)} | - | - | -0.9 | V | I _C =-20mA, I _B =-2mA |
| h _{FE 1} | 50 | - | - | - | V _{CE} =-10V, I _C =-1mA |
| *h _{FE 2} | 56 | - | 270 | - | V _{CE} =-10V, I _C =-10mA |
| *h _{FE 3} | 50 | - | - | - | V _{CE} =-10V, I _C =-50mA |
| *h _{FE 4} | 40 | - | - | - | V _{CE} =-10V, I _C =-100mA |
| Cob | - | - | 6 | pF | V _{CB} =-10V, I _E =0A, f=1MHz |

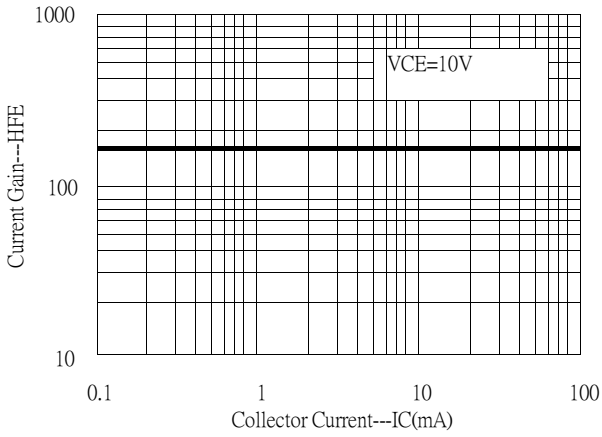
*Pulse Test: Pulse Width ≤380μs, Duty Cycle ≤2%

Classification Of h_{FE}

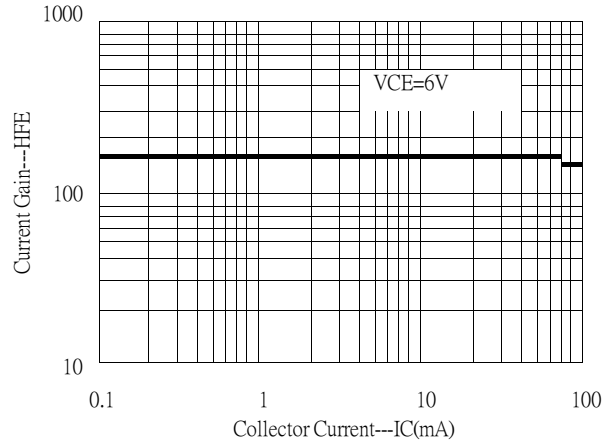
| Rank | K | P | Q |
|-------|--------|--------|---------|
| Range | 56~120 | 82~180 | 120~270 |

Characteristic Curves

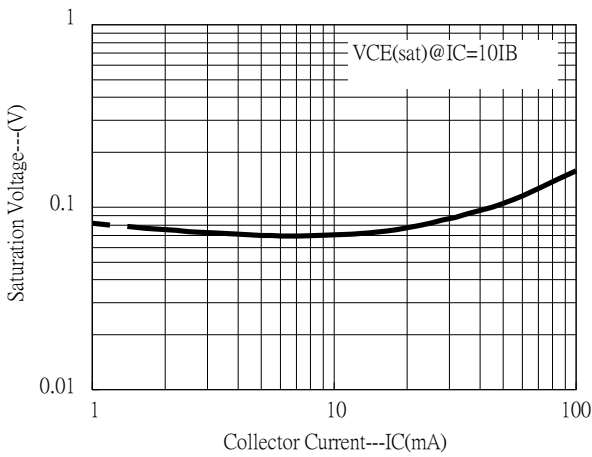
Current Gain vs Collector Current



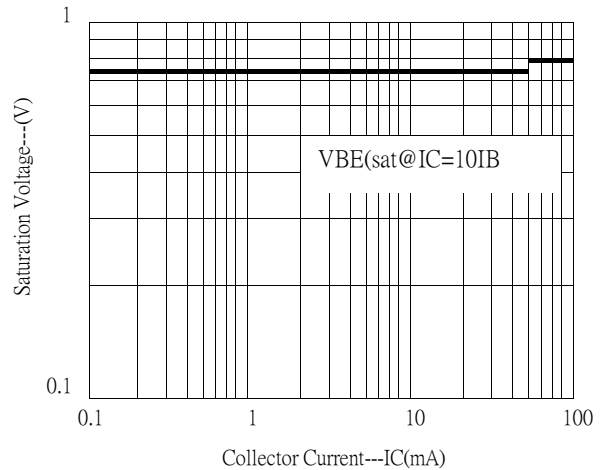
Current Gain vs Collector Current



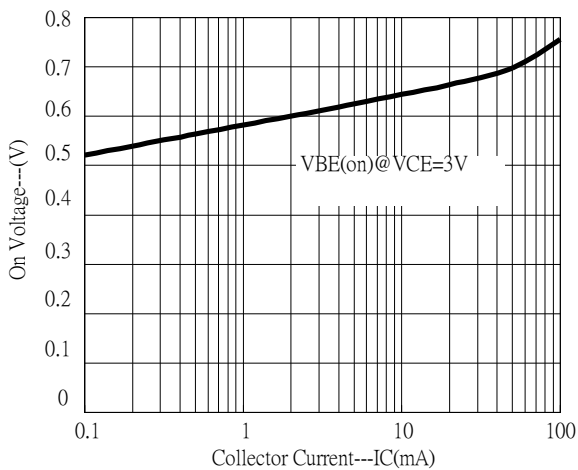
Saturation Voltage vs Collector Current



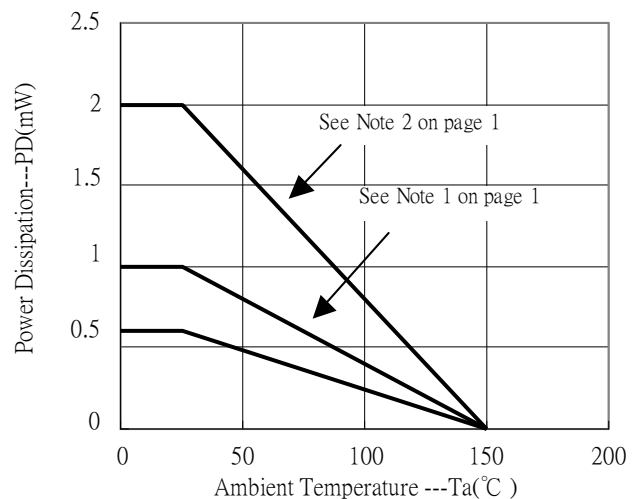
Saturation Voltage vs Collector Current



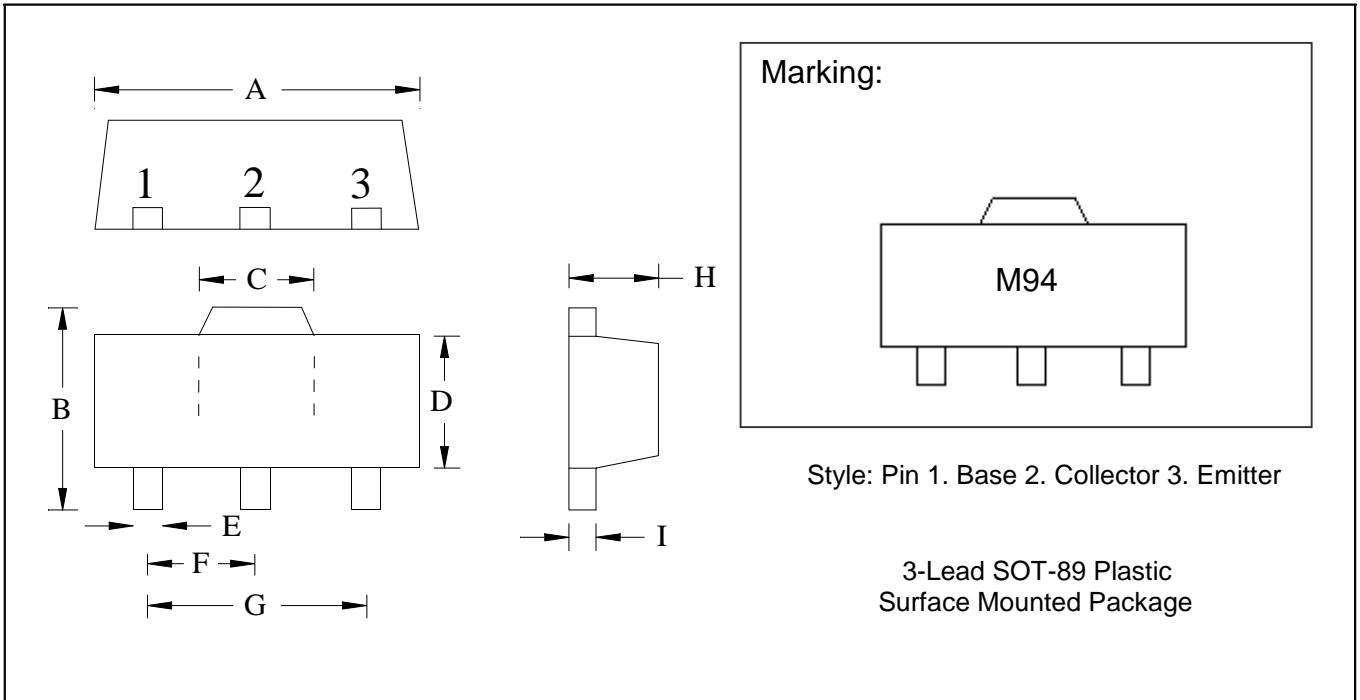
On Voltage vs Collector Current



Power Derating Curves



SOT-89 Dimension



*: Typical

| DIM | Inches | | Millimeters | | DIM | Inches | | Millimeters | |
|-----|---------|--------|-------------|------|-----|--------|--------|-------------|-------|
| | Min. | Max. | Min. | Max. | | Min. | Max. | Min. | Max. |
| A | 0.1732 | 0.1811 | 4.40 | 4.60 | F | 0.0583 | 0.0598 | 1.48 | 1.527 |
| B | 0.1594 | 0.1673 | 4.05 | 4.25 | G | 0.1165 | 0.1197 | 2.96 | 3.04 |
| C | 0.0591 | 0.0663 | 1.50 | 1.70 | H | 0.0551 | 0.0630 | 1.40 | 1.60 |
| D | 0.0945 | 0.1024 | 2.40 | 2.60 | I | 0.0138 | 0.0161 | 0.35 | 0.41 |
| E | 0.01417 | 0.0201 | 0.36 | 0.51 | | | | | |

Notes: 1. Controlling dimension: millimeters.

2. Maximum lead thickness includes lead finish thickness, and minimum lead thickness is the minimum thickness of base material.

3. If there is any question with packing specification or packing method, please contact your local Tin Far sales office.

Material:

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

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