

# 2SC3856

Silicon NPN Triple Diffused Planar Transistor (Complement to type 2SA1492)

Application : Audio and General Purpose

**Absolute maximum ratings** (Ta=25°C)

| Symbol | 2SC3856      | Unit |
|--------|--------------|------|
| VCBO   | 200          | V    |
| VCEO   | 180          | V    |
| VEBO   | 6            | V    |
| IC     | 15           | A    |
| IB     | 4            | A    |
| PC     | 130(Tc=25°C) | W    |
| TJ     | 150          | °C   |
| Tstg   | -55 to +150  | °C   |

**Electrical Characteristics** (Ta=25°C)

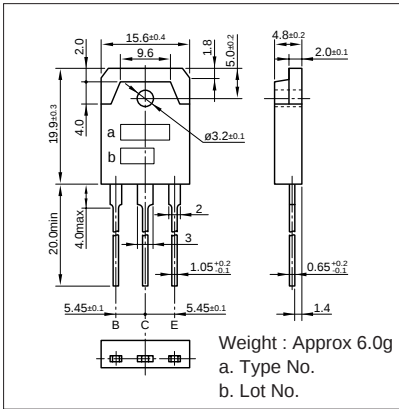
| Symbol   | Conditions        | 2SC3856 | Unit |
|----------|-------------------|---------|------|
| ICBO     | VCB=200V          | 100max  | μA   |
| IEBO     | VEB=6V            | 100max  | μA   |
| V(BR)CEO | IC=50mA           | 180min  | V    |
| hFE      | VCE=4V, IC=3A     | 50min*  |      |
| VCE(sat) | IC=5A, IB=0.5A    | 2.0max  | V    |
| fr       | VCE=12V, IE=-0.5A | 20typ   | MHz  |
| COB      | VCB=10V, f=1MHz   | 300typ  | pF   |

\*hFE Rank  $\bar{O}$ (50 to 100), P(70 to 140), Y(90 to 180)

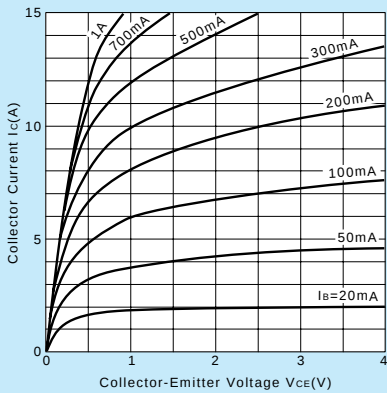
**Typical Switching Characteristics (Common Emitter)**

| VCC (V) | RL (Ω) | IC (A) | VBB1 (V) | VBB2 (V) | IB1 (A) | IB2 (A) | ton (μs) | tstg (μs) | tf (μs) |
|---------|--------|--------|----------|----------|---------|---------|----------|-----------|---------|
| 40      | 4      | 10     | 10       | -5       | 1       | -1      | 0.5typ   | 1.8typ    | 0.6typ  |

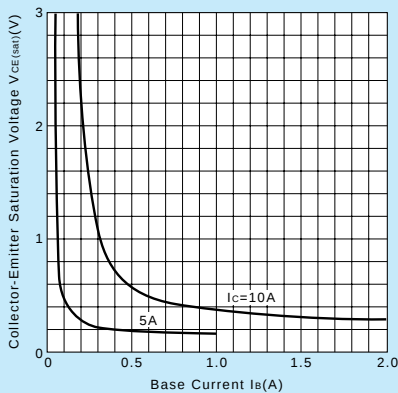
**External Dimensions MT-100(TO3P)**



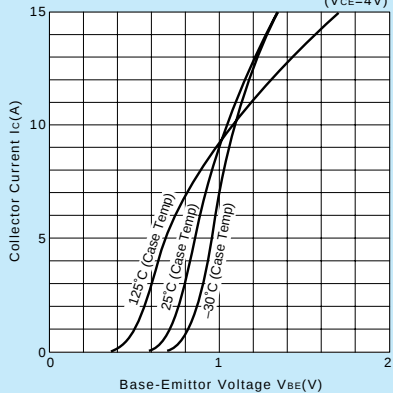
**IC-VCE Characteristics (Typical)**



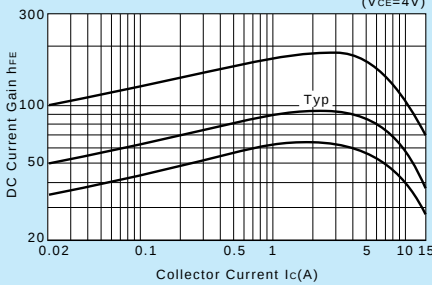
**VCE(sat)-IB Characteristics (Typical)**



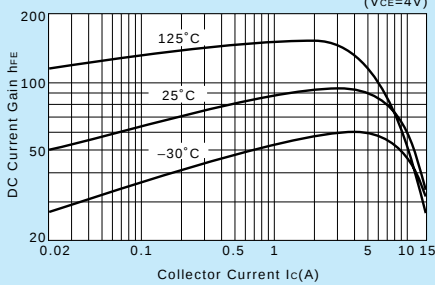
**IC-VBE Temperature Characteristics (Typical)**



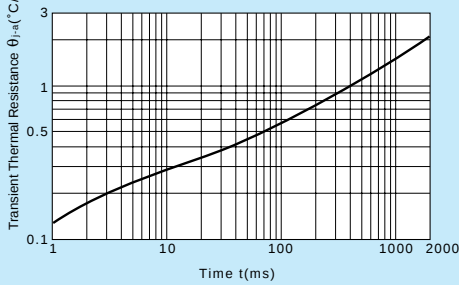
**hFE-IC Characteristics (Typical)**



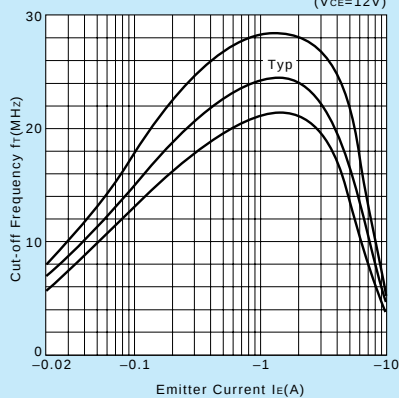
**hFE-IC Temperature Characteristics (Typical)**



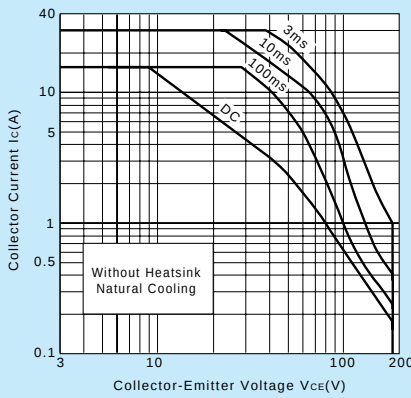
**θj-a-t Characteristics**



**fr-IE Characteristics (Typical)**



**Safe Operating Area (Single Pulse)**



**Pc-Ta Derating**

