

General purpose transistors (dual transistors)

EMT18 / UMT18N / IMT18

●Features

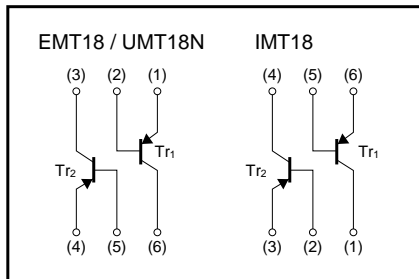
- 1) Two 2SA2018 chips in a EMT package.
- 2) Mounting possible with EMT3 or UMT3 or SMT3 automatic mounting machines.
- 3) Transistor elements are independent, eliminating interference.

●Structure

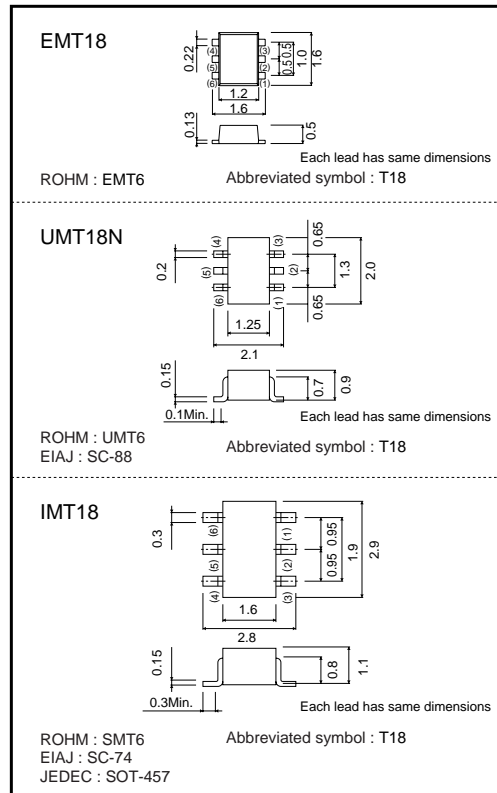
Epitaxial planar type
NPN silicon transistor

The following characteristics apply to both Tr₁ and Tr₂.

●Equivalent circuit



●External dimensions (Unit : mm)



●Absolute maximum ratings (Ta=25°C)

| Parameter | Symbol | Limits | Unit | |
|---------------------------|------------------|-------------|---------------|----|
| Collector-base voltage | V _{CB0} | -15 | V | |
| Collector-emitter voltage | V _{CEO} | -12 | V | |
| Emitter-base voltage | V _{EBO} | -6 | V | |
| Collector current | I _c | -500 | mA | |
| | I _{CP} | 1.0 *1 | A | |
| Power dissipation | P _C | EMT6 | 150 (TOTAL)*2 | mW |
| | | UMT6 | | |
| | | SMT6 | | |
| Junction temperature | T _J | 150 | °C | |
| Storage temperature | T _{stg} | -55 to +150 | °C | |

*1 Single pulse P_w=1ms

*2 120mW per element must not be exceeded.

*3 200mW per element must not be exceeded.

Transistors

●Electrical characteristics (Ta=25°C)

| Parameter | Symbol | Min. | Typ. | Max. | Unit | Conditions |
|--------------------------------------|----------------------|------|------|------|------|---|
| Collector-base breakdown voltage | BV _{CBO} | -15 | - | - | V | I _C = -10μA |
| Collector-emitter breakdown voltage | BV _{CEO} | -12 | - | - | V | I _C = -1mA |
| Emitter-base breakdown voltage | BV _{EBO} | -6 | - | - | V | I _E = -10μA |
| Collector cutoff current | I _{CBO} | - | - | -0.1 | μA | V _{CB} = -15V |
| Emitter cutoff current | I _{EBO} | - | - | -0.1 | μA | V _{CB} = -6V |
| Collector-emitter saturation voltage | V _{CE(sat)} | - | -100 | -250 | mV | I _C / I _B = -200mA / -10mA |
| DC current transfer ratio | h _{FE} | 270 | - | 680 | - | V _{CE} = -2V, I _C = -10mA |
| Transition frequency | f _r | - | 260 | - | MHz | V _{CE} = -2V, I _E =10mA, f=100MHz |
| Output capacitance | C _{ob} | - | 6.5 | - | pF | V _{CB} = -10V, I _E =0A, f=1MHz |

●Packaging specifications and h_{FE}

| Type | Package name | Taping | | |
|--------|------------------------------|--------|------|------|
| | Code | T2R | TR | T110 |
| | Basic ordering unit (pieces) | 8000 | 3000 | 3000 |
| EMT18 | ○ | - | - | - |
| UMT18N | - | ○ | - | - |
| IMT18 | - | - | - | ○ |

●Electrical characteristic curves

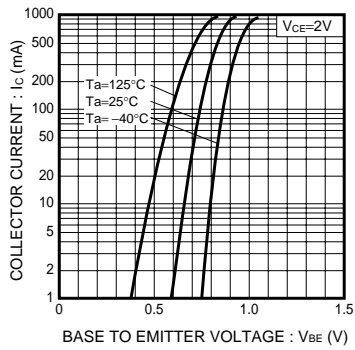


Fig.1 Grounded Emitter Propagation Characteristics

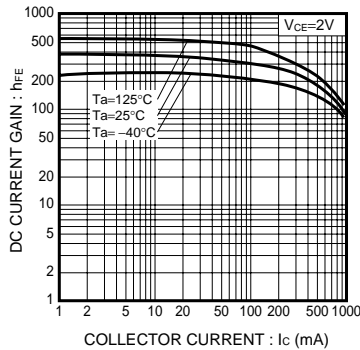


Fig.2 DC Current Gain vs. Collector Current

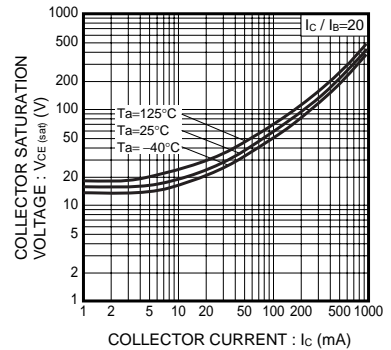


Fig.3 Collector-Emitter Saturation Voltage vs. Collector Current (I)

Transistors

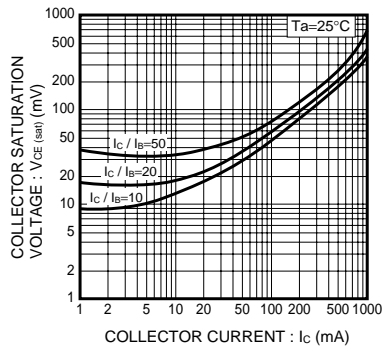


Fig.4 Collector-Emitter Saturation Voltage vs. Collector Current (II)

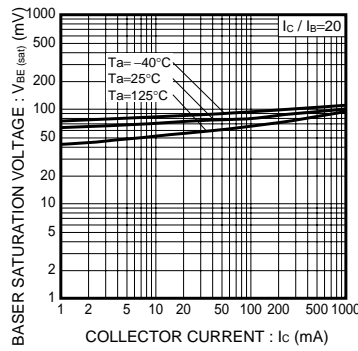


Fig.5 Base-Emitter Saturation Voltage vs. Collector Current

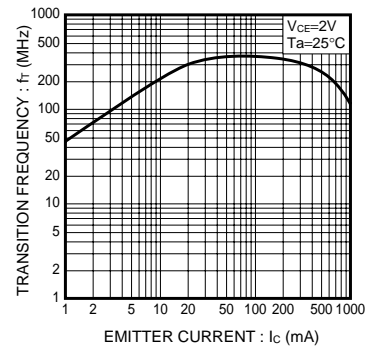


Fig.6 Gain Bandwidth Product vs. Emitter Current

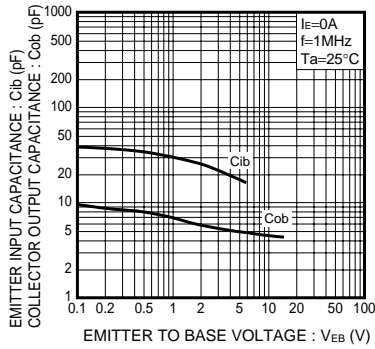


Fig.7 Collector Output Capacitance vs. Collector-Base Voltage
Emitter Input Capacitance vs. Emitter-Base Voltage

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