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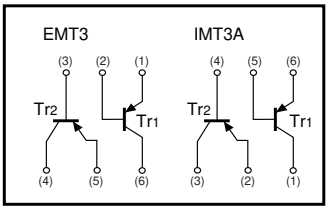
# General purpose (dual transistors)

## EMT3 / IMT3A

### ●Features

1) Two 2SA1037AK chips in a EMT or SMT package.

### ●Equivalent circuits



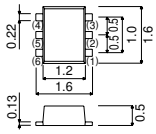

### ●Absolute maximum ratings (Ta=25°C)

| Parameter | | Symbol | Limits | Unit |
|---|---|---|---|---|
| Collector-base voltage | | $V_{CBO}$ | −60 | V |
| Collector-emitter voltage | | $V_{CEO}$ | −50 | V |
| Emitter-base voltage | | $V_{EBO}$ | −6 | V |
| Collector current | | $I_C$ | −150 | mA |
| Collector power dissipation | EMT3 | $P_C$ | 150(TOTAL) | mW ∗1 |
| | IMT3A | | 300(TOTAL) | ∗2 |
| Junction temperature | | Tj | 150 | °C |
| Storage temperature | | Tstg | −55 to +150 | °C |

∗1 120mW per element must not be exceeded.
∗2 200mW per element must not be exceeded.

### ●External dimensions (Unit : mm)

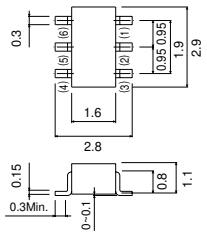
EMT3




Each lead has same dimensions

ROHM : EMT6

IMT3A




Each lead has same dimensions

ROHM : SMT6
EIAJ : SC-74

### ●Package, marking, and packaging specifications

| Type | EMT3 | IMT3A |
|---|---|---|
| Package | EMT6 | SMT6 |
| Marking | T3 | T3 |
| Code | T2R | T108 |
| Basic ordering unit (pieces) | 8000 | 3000 |

### ●Electrical characteristics (Ta=25°C)

| Parameter | Symbol | Min. | Typ. | Max. | Unit | Conditions |
|---|---|---|---|---|---|---|
| Collector-base breakdown voltage | $BV_{CBO}$ | −60 | − | − | V | $I_C$=−50μA |
| Collector-emitter breakdown voltage | $BV_{CEO}$ | −50 | − | − | V | $I_C$=−1mA |
| Emitter-base breakdown voltage | $BV_{EBO}$ | −6 | − | − | V | $I_E$=−50μA |
| Collector cutoff current | $I_{CBO}$ | − | − | −0.1 | μA | $V_{CB}$=−60V |
| Emitter cutoff current | $I_{EBO}$ | − | − | −0.1 | μA | $V_{EB}$=−6V |
| Collector-emitter saturation voltage | $V_{CE(sat)}$ | − | − | −0.5 | V | $I_C/I_B$=−50mA/−5mA |
| DC current transfer ratio | $h_{FE}$ | 120 | − | 560 | − | $V_{CE}$=−6V, $I_C$=−1mA |
| Transition frequency | $f_T$ | − | 140 | − | MHz | $V_{CE}$=−12V, $I_E$=2mA, f=100MHz ∗ |
| Output capacitance | Cob | − | 4 | 5 | pF | $V_{CE}$=−12V, $I_E$=0A, f=1MHz |

∗Transition frequency of the device.

**●Electrical characteristics curves**

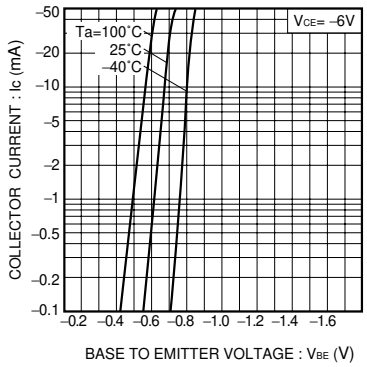



Fig.1 Grounded emitter propagation characteristics

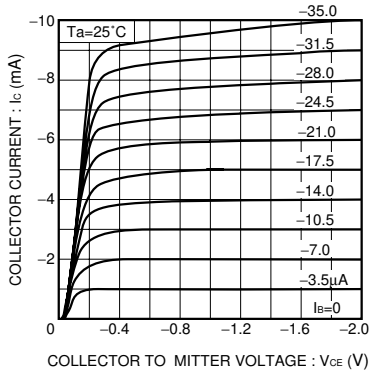



Fig.2 Grounded emitter output characteristics (I)

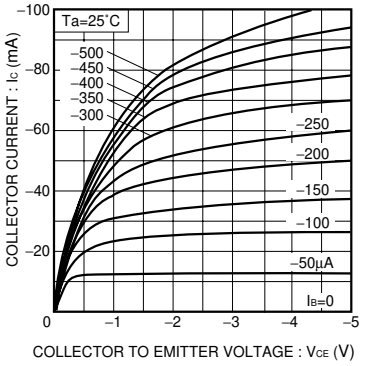



Fig.3 Grounded emitter output characteristics (II)

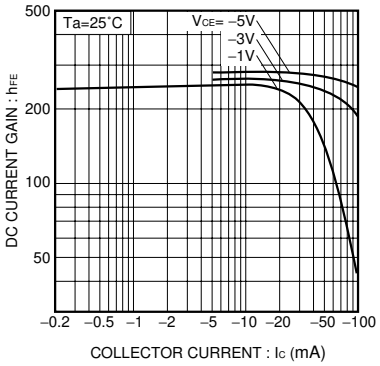



Fig.4 DC current gain vs. collector current (I)

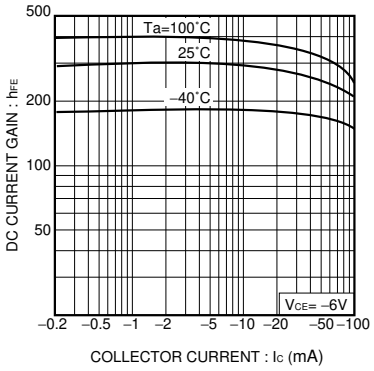



Fig.5 DC current gain vs. collector current (II)

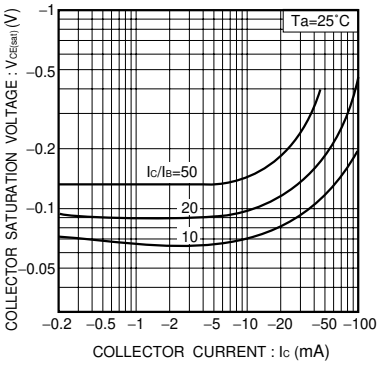



Fig.6 Collector-emitter saturation voltage vs. collector current (I)

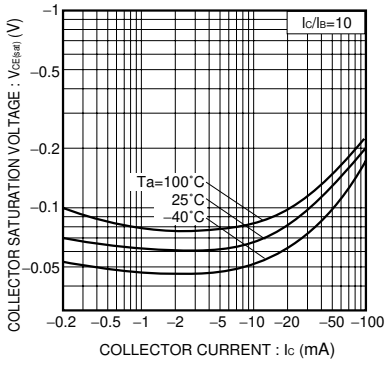



Fig.7 Collector-emitter saturation voltage vs. collector current (II)

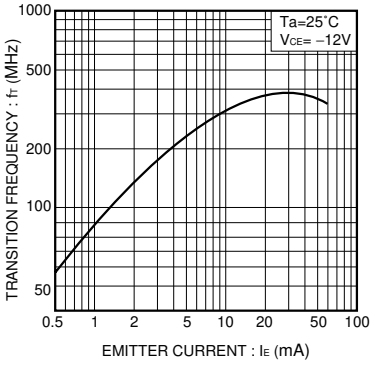



Fig.8 Gain bandwidth product vs. emitter current

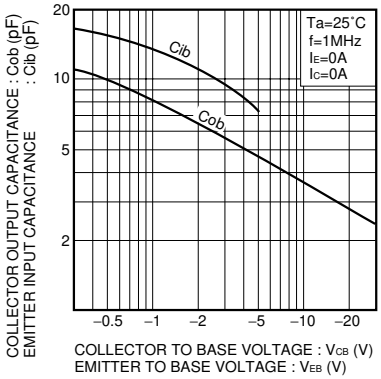



Fig.9 Collector output capacitance vs. collector-base voltage
Emitter inputcapacitance vs. emitter-base voltage

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