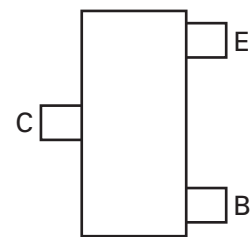
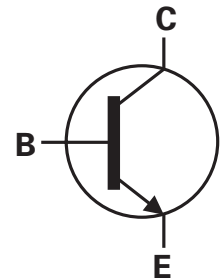
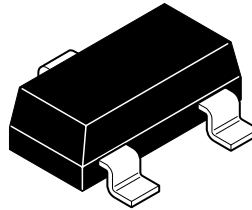


FMMT497

SOT23 NPN silicon planar high voltage high performance transistor

Complementary part number - FMMT597

Device marking - 497



Pinout - top view

Absolute maximum ratings

| Parameter | Symbol | Value | Unit |
|--|---------------|-------------|-------------|
| Collector-base voltage | V_{CBO} | 300 | V |
| Collector-emitter voltage | V_{CEO} | 300 | V |
| Emitter-base voltage | V_{EBO} | 5 | V |
| Continuous collector current | I_C | 500 | mA |
| Peak pulse current | I_{CM} | 1 | A |
| Base current | I_B | 200 | mA |
| Power dissipation at $T_{amb}=25^{\circ}C$ | P_{tot} | 500 | mW |
| Operating and storage temperature range | $T_j:T_{stg}$ | -55 to +150 | $^{\circ}C$ |

FMMT497

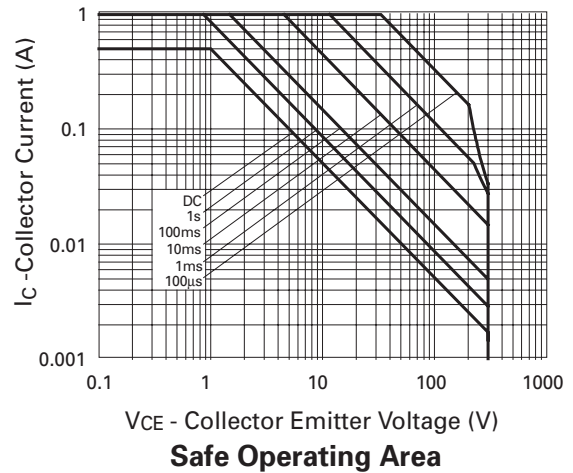
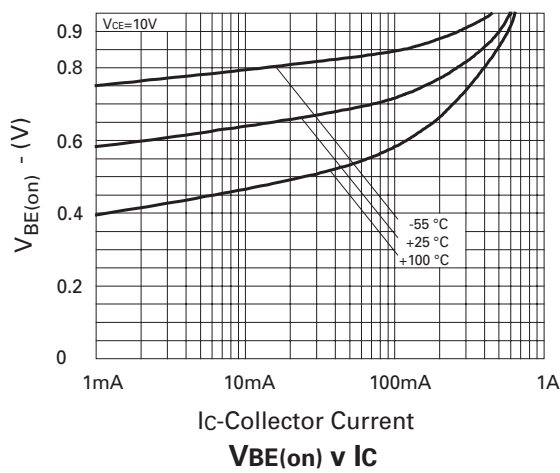
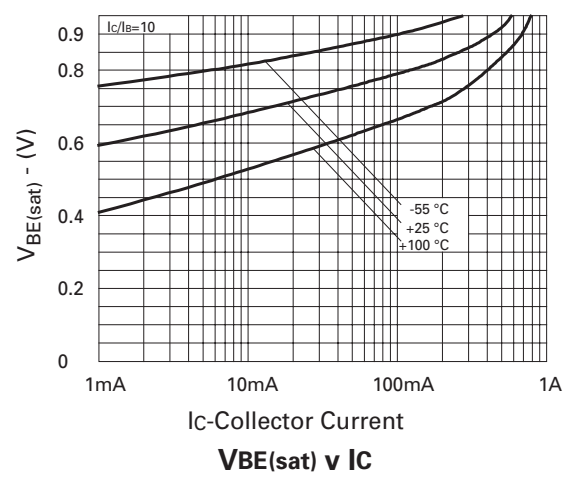
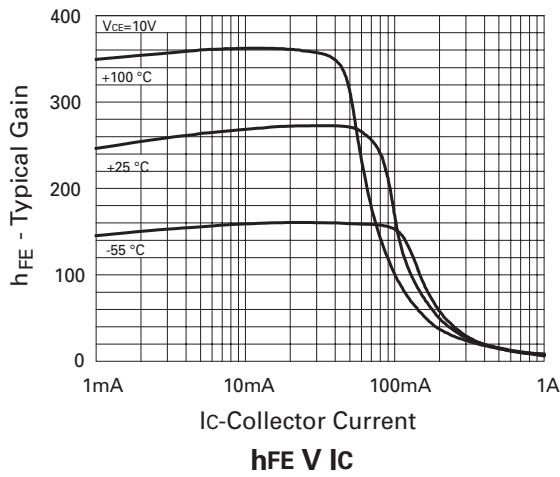
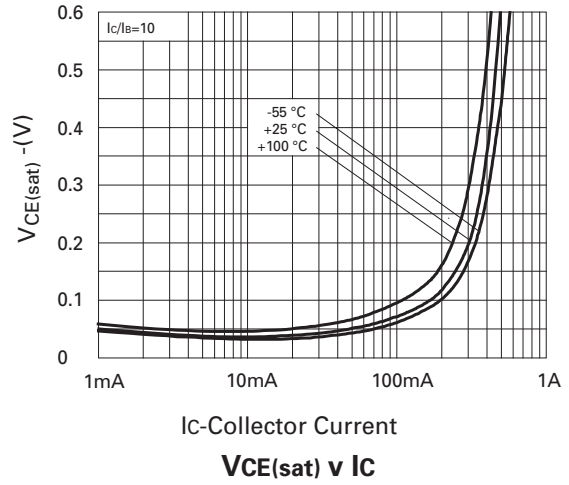
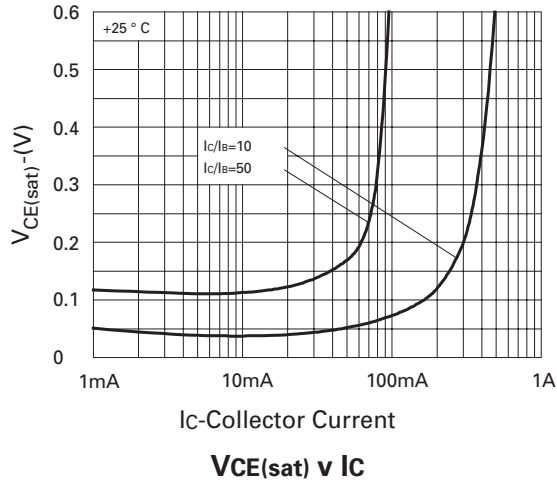
Electrical characteristics (at $T_{amb} = 25^{\circ}\text{C}$ unless otherwise stated)

| Parameter | Symbol | Min. | Typ. | Max | Unit | Conditions |
|---------------------------------------|----------------|-----------------|------|------------|---------------|---|
| Collector-base breakdown voltage | $V_{(BR)CBO}$ | 300 | | | V | $I_C = 100\mu\text{A}$ |
| Collector-emitter breakdown voltage | $V_{CEO(sus)}$ | 300 | | | V | $I_C = 10\text{mA}^{(*)}$ |
| Emitter-base breakdown voltage | $V_{(BR)EBO}$ | 5 | | | V | $I_E = 100\mu\text{A}$ |
| Collector cut-off current | I_{CBO} | | | 100 | nA | $V_{CB} = 250\text{V}$ |
| Collector cut-off current | I_{CES} | | | 100 | nA | $V_{CES} = 250\text{V}$ |
| Emitter cut-off current | I_{EBO} | | | 100 | nA | $V_{EB} = 4\text{V}$ |
| Collector-emitter saturation voltage | $V_{CE(sat)}$ | | | 0.2 0.3 | V V | $I_C = 100\text{mA}, I_B = 10\text{mA}$ $I_C = 250\text{mA}, I_B = 25\text{mA}$ |
| Base-emitter saturation voltage | $V_{BE(sat)}$ | | | 1.0 | V | $I_C = 250\text{mA}, I_B = 25\text{mA}$ |
| Base-emitter turn on voltage | $V_{BE(on)}$ | | | 1.0 | V | $I_C = 250\text{mA}, V_{CE} = 10\text{V}$ |
| Static forward current transfer ratio | h_{FE} | 100 80 20 | | 300 | | $I_C = 1\text{mA}, V_{CE} = 10\text{V}$ $I_C = 100\text{mA}, V_{CE} = 10\text{V}^{(*)}$ $I_C = 250\text{mA}, V_{CE} = 10\text{V}^{(*)}$ |
| Transition frequency | f_T | 75 | | | MHz | $I_C = 50\text{mA}, V_{CE} = 10\text{V}$ $f = 100\text{MHz}$ |
| output capacitance | C_{obo} | | | 5 | pF | $V_{CB} = 10\text{V}, f = 1\text{MHz}$ |
| Switching performance | td | | 53 | | ns | $V_{CC} = 100\text{V}, I_C = 100\text{mA},$ $I_{b1} = -I_{b2} = 10\text{mA}$ |
| | tr | | 126 | | ns | |
| | ts | | 2.58 | | μs | |
| | tf | | 228 | | ns | |

NOTES:

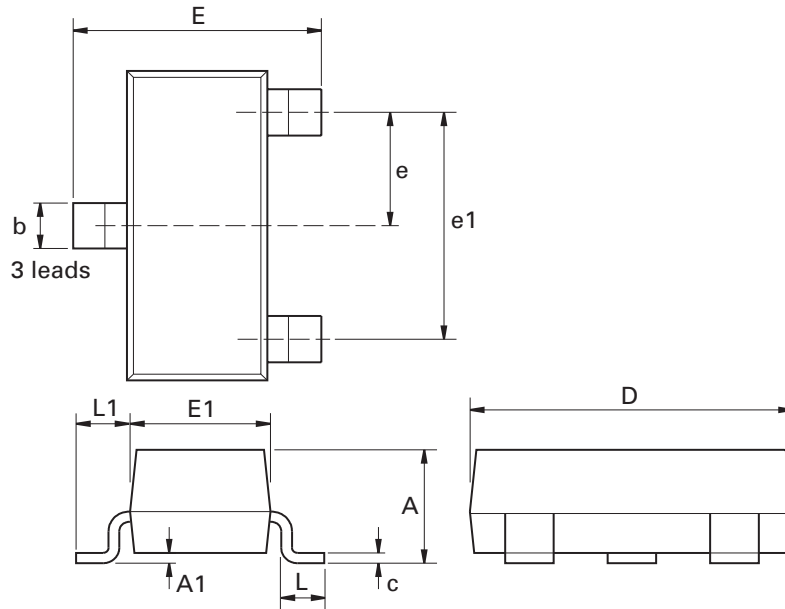
(*) Measured under pulsed conditions. Pulse width = $300\mu\text{s}$. Duty cycle $\leq 2\%$.

Typical characteristics



FMMT497

Package outline - SOT23



| Dim. | Millimeters | | Inches | | Dim. | Millimeters | | Inches | |
|------|-------------|-------|------------|-------|------|-------------|------|-----------|-------|
| | Min. | Max. | Min. | Max. | | Min. | Max. | Max. | Max. |
| A | - | 1.12 | - | 0.044 | e1 | 1.90 NOM | | 0.075 NOM | |
| A1 | 0.01 | 0.10 | 0.0004 | 0.004 | E | 2.10 | 2.64 | 0.083 | 0.104 |
| b | 0.30 | 0.50 | 0.012 | 0.020 | E1 | 1.20 | 1.40 | 0.047 | 0.055 |
| C | 0.085 | 0.120 | 0.003 | 0.008 | L | 0.25 | 0.62 | 0.018 | 0.024 |
| D | 2.80 | 3.04 | 0.110 | 0.120 | L1 | 0.45 | 0.62 | 0.018 | 0.024 |
| e | 0.95 NOM | | 0.0375 NOM | | - | - | - | - | - |

Note: Controlling dimensions are in millimeters. Approximate dimensions are provided in inches

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| | |
|-----------------------------------|--|
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| "Last time buy (LTB)" | Device will be discontinued and last time buy period and delivery is in effect |
| "Not recommended for new designs" | Device is still in production to support existing designs and production |
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Datasheet status key:

| | |
|-----------------------|---|
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