

FCX495

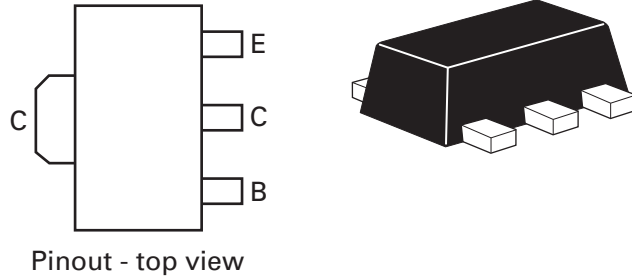
SOT89 NPN silicon planar high voltage transistor

Features

- 150 Volt V_{CEO}
- 1 Amp continuous current

Device marking

N95



Pinout - top view

Absolute maximum ratings

| Parameter | Symbol | Value | Unit |
|---|----------------|-------------|------------------|
| Collector-base voltage | V_{CBO} | 170 | V |
| Collector-emitter voltage | V_{CEO} | 150 | V |
| Emitter-base voltage | V_{EBO} | 5 | V |
| Continuous collector current | I_C | 1 | A |
| Peak pulse current | I_{CM} | 2 | A |
| Base current | I_B | 200 | mA |
| Power dissipation at $T_{amb} = 25^\circ\text{C}$ | P_{tot} | 1 | W |
| Operating and storage temperature range | $T_j; T_{stg}$ | -65 to +150 | $^\circ\text{C}$ |

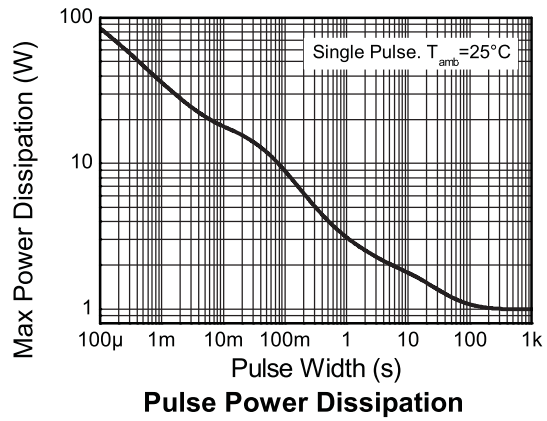
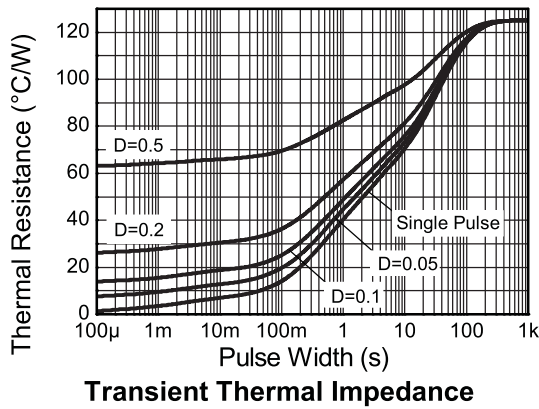
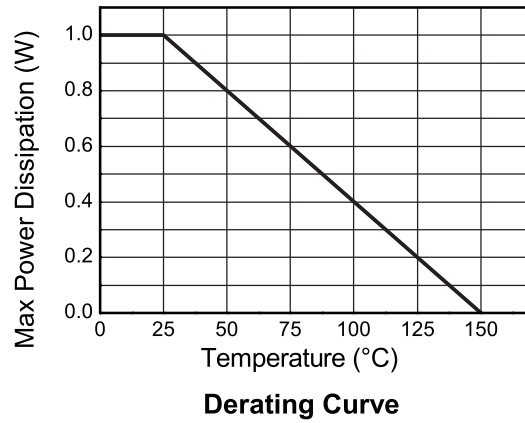
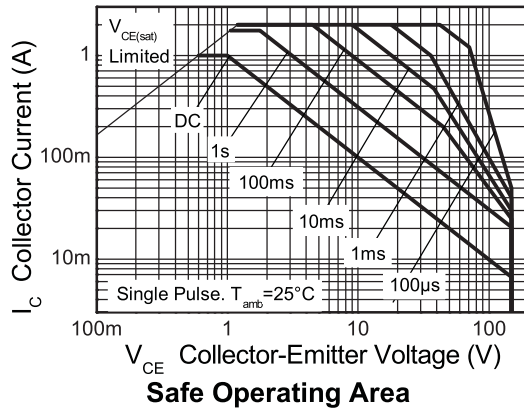
Electrical characteristics (at $T_{amb} = 25^\circ\text{C}$)

| Parameter | Symbol | Min. | Max. | Unit | Conditions |
|---------------------------------------|--------------------|------|------|------|---|
| Breakdown voltages | $V_{(BR)CBO}$ | 170 | | V | $I_C=100\mu\text{A}$ |
| | $V_{CEO(sus)}$ | 150 | | V | $I_C=10\text{mA}^{(*)}$ |
| | $V_{(BR)EBO}$ | 5 | | V | $I_E=100\mu\text{A}$ |
| Collector cut-off currents | I_{CBO}, I_{CES} | | 100 | nA | $V_{CB}=150\text{V}, V_{CE}=150\text{V}$ |
| Emitter cut-off current | I_{EBO} | | 100 | nA | $V_{EB}=4\text{V}$ |
| Emitter saturation voltages | $V_{CE(sat)}$ | | 0.2 | V | $I_C=250\text{mA}, I_B=25\text{mA}^{(*)}$ |
| | | | 0.3 | V | $I_C=500\text{mA}, I_B=50\text{mA}^{(*)}$ |
| | $V_{BE(sat)}$ | | 1.0 | V | $I_C=500\text{mA}, I_B=50\text{mA}^{(*)}$ |
| Base-emitter turn on voltage | $V_{BE(on)}$ | | 1.0 | V | $I_C=500\text{mA}, V_{CE}=10\text{V}^{(*)}$ |
| Static forward current transfer ratio | h_{FE} | 100 | 300 | | $I_C=1\text{mA}, V_{CE}=10\text{V}$ |
| | | 100 | | | $I_C=250\text{mA}, V_{CE}=10\text{V}^{(*)}$ |
| | | 50 | | | $I_C=500\text{mA}, V_{CE}=10\text{V}^{(*)}$ |
| | | 10 | | | $I_C=1\text{A}, V_{CE}=10\text{V}^{(*)}$ |
| Transition frequency | f_T | 100 | | MHz | $I_C=50\text{mA}, V_{CE}=10\text{V}$ $f=100\text{MHz}$ |
| Collector-base breakdown voltage | C_{obo} | | 10 | pF | $V_{CB}=10\text{V}, f=1\text{MHz}$ |

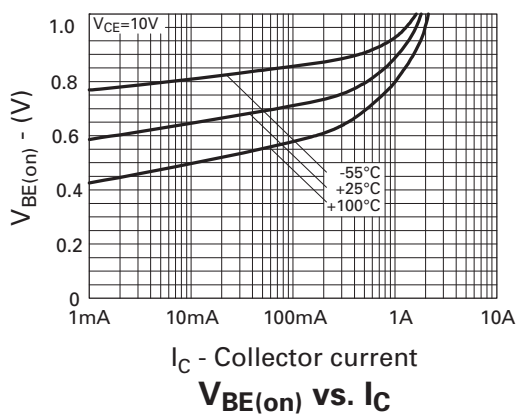
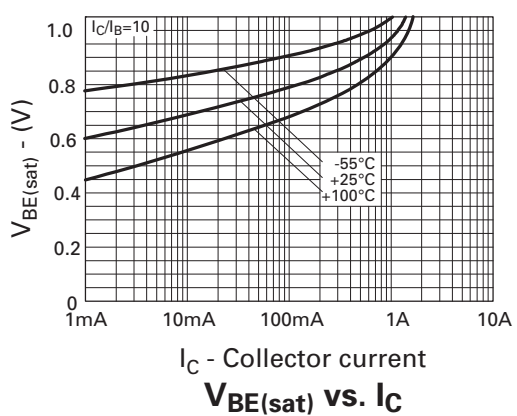
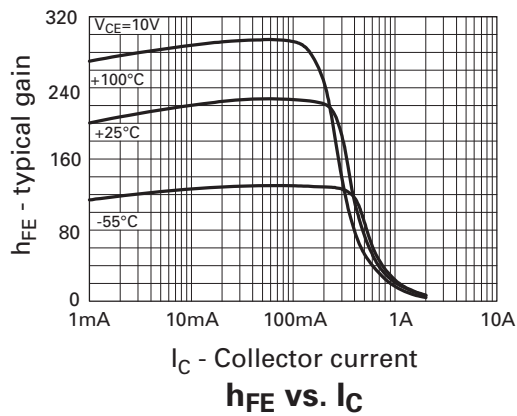
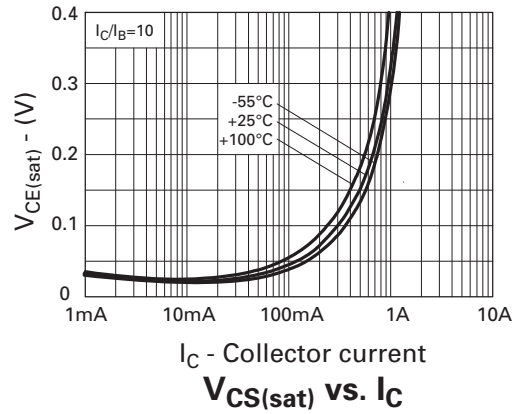
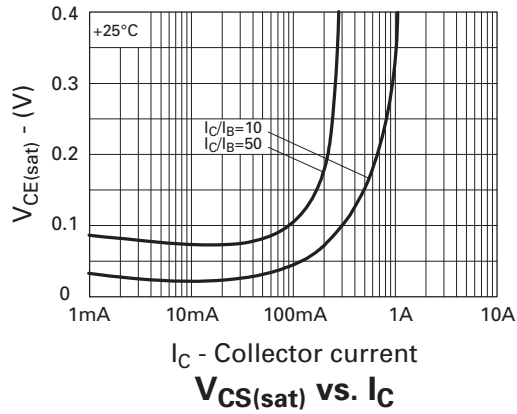
NOTES:

(*) Measured under pulsed conditions. Pulse width = 300 μs . Duty cycle $\leq 2\%$

Typical characteristics

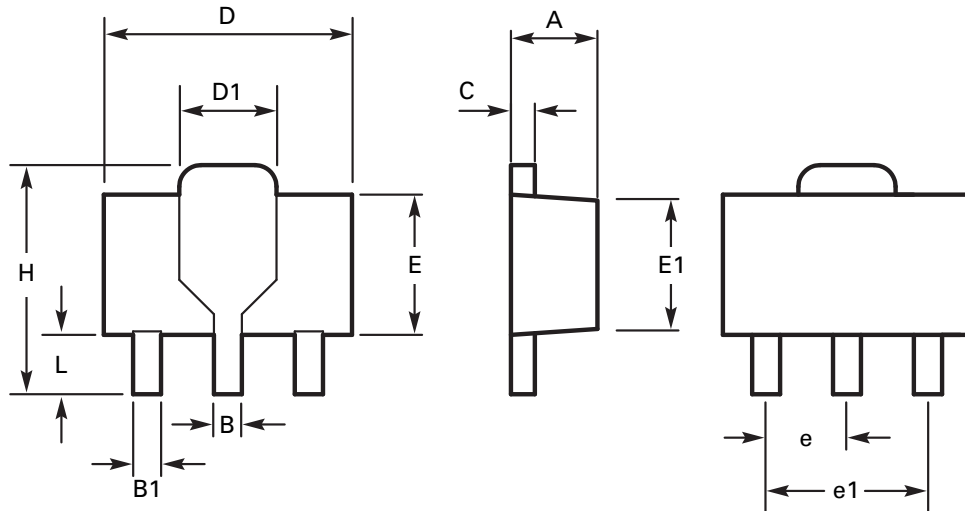


Typical characteristics



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Package outline - SOT89



| DIM | Millimeters | | Inches | | DIM | Millimeters | | Inches | |
|-----|-------------|------|--------|-------|-----|-------------|------|-----------|-------|
| | Min | Max | Min | Max | | Min | Max | Min | Max |
| A | 1.40 | 1.60 | 0.550 | 0.630 | E | 2.29 | 2.60 | 0.090 | 0.102 |
| B | 0.44 | 0.56 | 0.017 | 0.022 | E1 | 2.13 | 2.29 | 0.084 | 0.090 |
| B1 | 0.36 | 0.48 | 0.014 | 0.019 | e | 1.50 BSC | | 0.059 BSC | |
| C | 0.35 | 0.44 | 0.014 | 0.017 | e1 | 3.00 BSC | | 0.118 BSC | |
| D | 4.40 | 4.60 | 0.173 | 0.181 | H | 3.94 | 4.25 | 0.155 | 0.167 |
| D1 | 1.52 | 1.83 | 0.064 | 0.072 | L | 0.89 | 1.20 | 0.035 | 0.047 |

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

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| | |
|-----------------------------------|--|
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| "Active" | Product status recommended for new designs |
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| | |
|-----------------------|---|
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