

# SOT223 NPN SILICON PLANAR HIGH VOLTAGE TRANSISTOR

ISSUE 3 – SEPTEMBER 2007

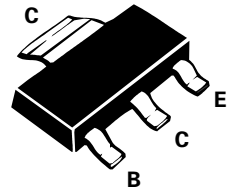
FZTA42

## FEATURES

- \* Suitable for video output stages in TV sets and switch mode power supplies
- \* High breakdown voltage

COMPLIMENTARY TYPE – FZTA92

PARTMARKING DETAIL – DEVICE TYPE IN FULL



## 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           |
| Base Current                               | $I_B$          | 100         | mA          |
| Continuous Collector Current               | $I_C$          | 500         | mA          |
| Power Dissipation at $T_{amb}=25^{\circ}C$ | $P_{tot}$      | 2           | W           |
| Operating and Storage Temperature Range    | $T_j; T_{stg}$ | -55 to +150 | $^{\circ}C$ |

## ELECTRICAL CHARACTERISTICS (at $T_{amb} = 25^{\circ}C$ ).

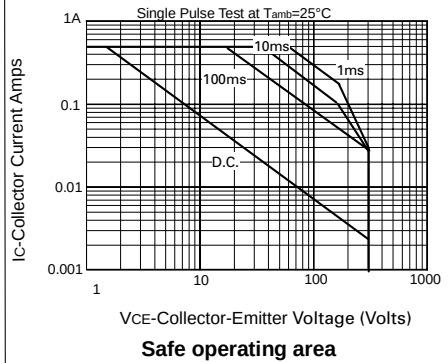
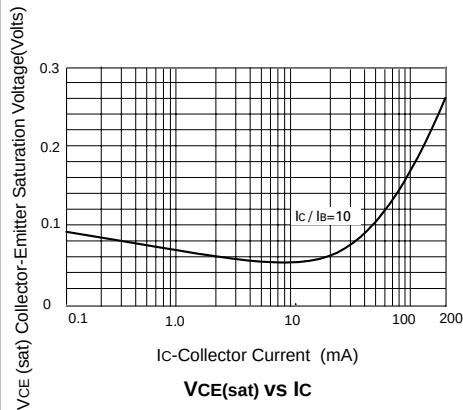
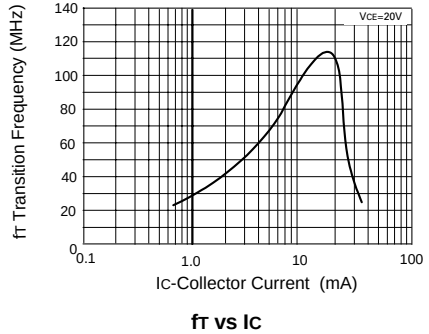
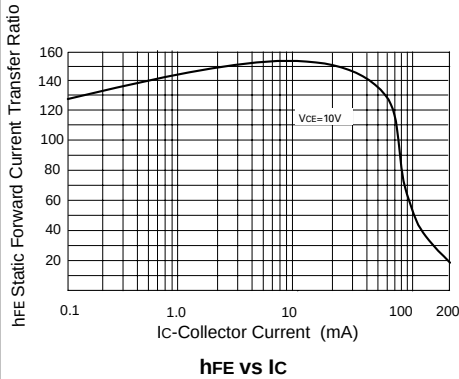
| PARAMETER                             | SYMBOL        | MIN.           | TYP. | MAX. | UNIT    | CONDITIONS.                                                                     |
|---------------------------------------|---------------|----------------|------|------|---------|---------------------------------------------------------------------------------|
| Collector-Base Breakdown Voltage      | $V_{(BR)CBO}$ | 300            |      |      | V       | $I_C=100\mu A, I_E=0$                                                           |
| Collector-Emitter Breakdown Voltage   | $V_{(BR)CEO}$ | 300            |      |      | V       | $I_C=1mA, I_B=0^*$                                                              |
| Emitter-Base Breakdown Voltage        | $V_{(BR)EBO}$ | 5              |      |      | V       | $I_E=100\mu A, I_C=0$                                                           |
| Collector Cut-Off Current             | $I_{CBO}$     |                |      | 0.1  | $\mu A$ | $V_{CB}=200V, I_E=0$                                                            |
| Emitter Cut-Off Current               | $I_{EBO}$     |                |      | 0.1  | $\mu A$ | $V_{EB}=5V, I_C=0$                                                              |
| Collector-Emitter Saturation Voltage  | $V_{CE(sat)}$ |                |      | 0.5  | V       | $I_C=20mA, I_B=2mA$                                                             |
| Base-Emitter Saturation Voltage       | $V_{BE(sat)}$ |                |      | 0.9  | V       | $I_C=20mA, I_B=2mA$                                                             |
| Static Forward Current Transfer Ratio | $h_{FE}$      | 25<br>40<br>40 |      |      |         | $I_C=1mA, V_{CE}=10V^*$<br>$I_C=10mA, V_{CE}=10V^*$<br>$I_C=30mA, V_{CE}=10V^*$ |
| Transition Frequency                  | $f_T$         | 50             |      |      | MHz     | $I_C=10mA, V_{CE}=20V$<br>$f=20MHz$                                             |
| Output Capacitance                    | $C_{obo}$     |                |      | 6    | pF      | $V_{CB}=20V, f=1MHz$                                                            |

\* Measured under pulsed conditions. Pulse width=300 $\mu s$ . Duty cycle  $\leq 2\%$

For typical characteristics graphs see FMMTA42 datasheet.

**FZTA42**

## TYPICAL CHARACTERISTICS



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