



## SuperSOT

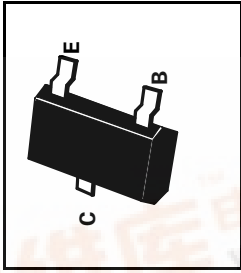
### SOT23 PNP SILICON POWER (SWITCHING) TRANSISTORS

FM717 FM718  
FM720 FM722  
FM723

ISSUE 3 JUNE 1996

#### FEATURES

- \* **625mW POWER DISSIPATION**
- \*  **$I_C$  CONT 2.5A**
- \*  $I_C$  Up To 10A Peak Pulse Current
- \* Excellent  $h_{FE}$  Characteristics Up To 10A (pulsed)
- \* Extremely Low Saturation Voltage E.g. 10mV Typ.
- \* Exhibits extremely low equivalent on-resistance;  $R_{CE(sat)}$



| DEVICE TYPE | COMPLEMENT | PARTMARKING | $R_{CE(sat)}$         |
|-------------|------------|-------------|-----------------------|
| FM717       | FM617      | 717         | 72m $\Omega$ at 2.5A  |
| FM718       | FM618      | 718         | 97m $\Omega$ at 1.5A  |
| FM720       | FM619      | 720         | 163m $\Omega$ at 1.5A |
| FM722       | -          | 722         | -                     |
| FM723       | FM624      | 723         | -                     |

#### ABSOLUTE MAXIMUM RATINGS

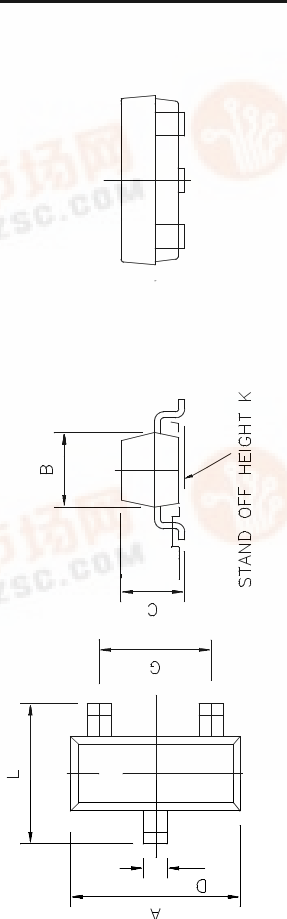
| PARAMETER                                     | SYMBOL         | FM717 | FM718 | FM720 | FM722 | FM723       | UNIT       |
|-----------------------------------------------|----------------|-------|-------|-------|-------|-------------|------------|
| Collector-Base Voltage                        | $V_{CB0}$      | -12   | -20   | -40   | -70   | -100        | V          |
| Collector-Emitter Voltage                     | $V_{CE0}$      | -12   | -20   | -40   | -70   | -100        | V          |
| Emitter-Base Voltage                          | $V_{EB0}$      | -5    | -5    | -5    | -5    | -5          | V          |
| Peak Pulse Current**                          | $I_{CM}$       | -10   | -6    | -4    | -3    | -2.5        | A          |
| Continuous Collector Current                  | $I_C$          | -2.5  | -1.5  | -1.5  | -1.5  | -1          | A          |
| Base Current                                  | $I_B$          |       |       | -500  |       |             | mA         |
| Power Dissipation at $T_{amb} = 25^\circ C^*$ | $P_{tot}$      |       |       |       |       | 625         | mW         |
| Operating and Storage Temperature Range       | $T_J, T_{stg}$ |       |       |       |       | -55 to +150 | $^\circ C$ |

\*Maximum power dissipation is calculated assuming that the device is mounted on a ceramic substrate measuring 15x15x0.6mm.

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

Spice parameter data is available upon request for these devices

| DIM | Millimeters | Inches    |
|-----|-------------|-----------|
|     | Min         | Max       |
| A   | 2.67        | 3.05      |
| B   | 1.20        | 1.40      |
| C   | -           | 1.10      |
| D   | 0.37        | 0.53      |
| F   | 0.085       | 0.15      |
| G   | NOM 1.9     | NOM 0.075 |
| K   | 0.01        | 0.10      |
| L   | 2.10        | 2.50      |
| N   | NOM 0.95    | NOM 0.37  |



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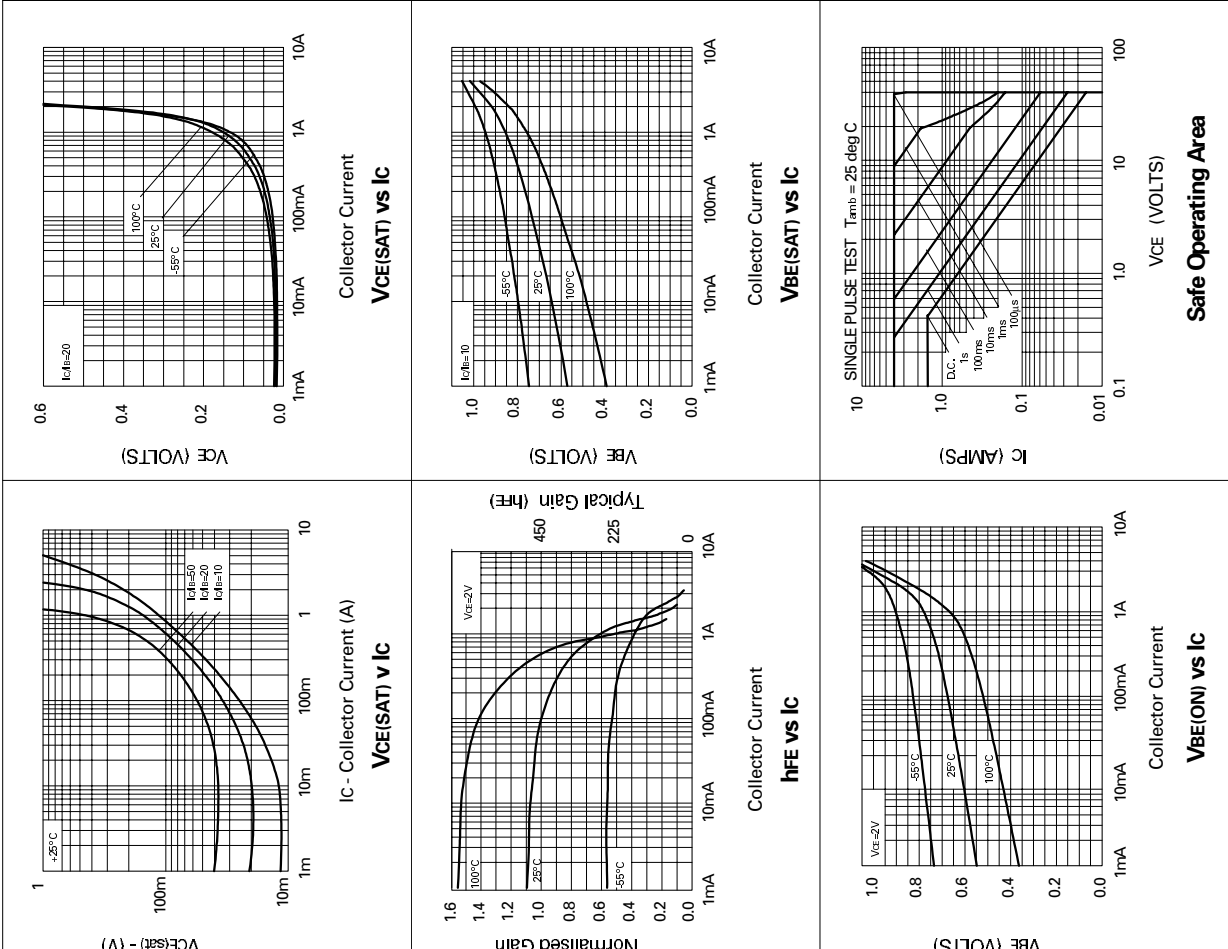
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查询FM717供应商

捷多邦, 专业PCB打样工厂, 24小时加急出货

TYPICAL CHARACTERISTICS



ELECTRICAL CHARACTERISTICS (at T<sub>amb</sub> = 25°C unless otherwise stated).

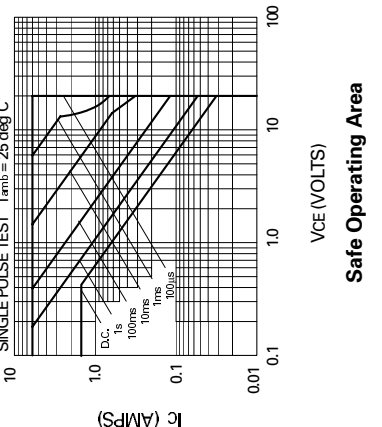
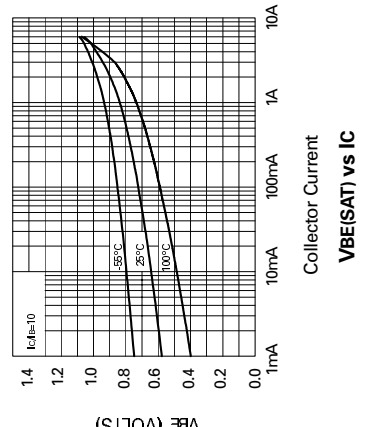
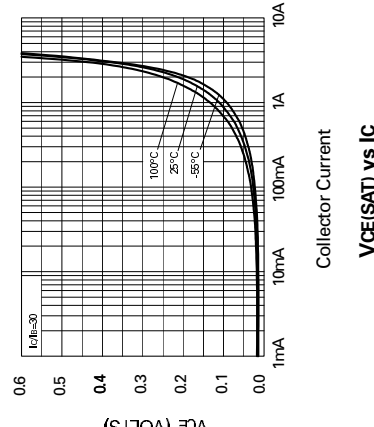
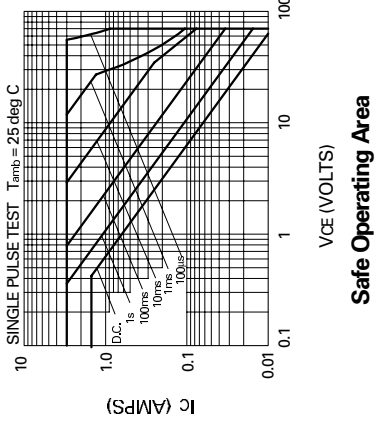
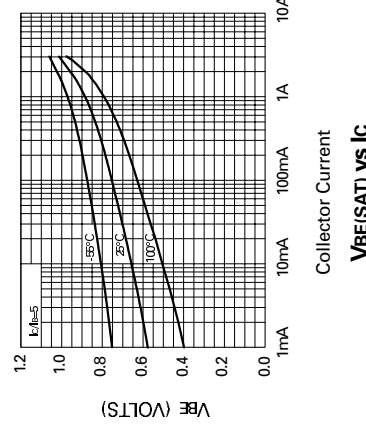
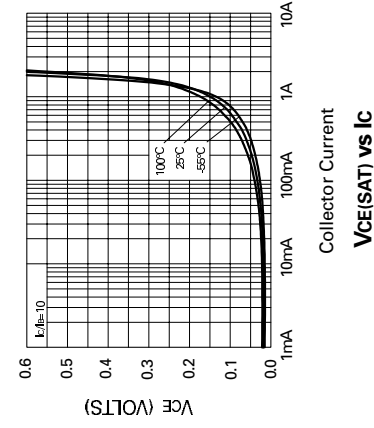
| PARAMETER                             | SYMBOL               | FMMT722                 |                         | FMMT723           |                                | UNIT | CONDITIONS.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
|---------------------------------------|----------------------|-------------------------|-------------------------|-------------------|--------------------------------|------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                       |                      | MIN.                    | TYP. MAX.               | MIN.              | TYP. MAX.                      |      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| Collector-Base Breakdown Voltage      | V <sub>BR(CBO)</sub> | -70                     | -150                    | -100              | -200                           | V    | I <sub>C</sub> =-100µA                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| Collector-Emitter Breakdown Voltage   | V <sub>BR(CEO)</sub> | -70                     | -125                    | -100              | -160                           | V    | I <sub>C</sub> =-10mA*                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| Emitter-Base Breakdown Voltage        | V <sub>BR(EB0)</sub> | -5                      | -8.8                    | -5                | -8.8                           | V    | I <sub>E</sub> =-100µA                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| Collector Cut-Off Current             | I <sub>CBO</sub>     |                         |                         | -100              |                                | nA   | V <sub>CB</sub> =-60V<br>V <sub>CB</sub> =-80V                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| Emitter Cut-Off Current               | I <sub>EB0</sub>     |                         |                         | -100              |                                | nA   | V <sub>EB</sub> =-4V                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| Collector Emitter Cut-Off Current     | I <sub>CES</sub>     |                         |                         | -100              |                                | nA   | V <sub>CE</sub> S=-60V<br>V <sub>CE</sub> S=-80V                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| Collector-Emitter Saturation Voltage  | V <sub>CE(sat)</sub> | -35<br>-135             | -50<br>-200             | -50<br>-200       | -80<br>-200                    | mV   | I <sub>C</sub> =-0.1A, I <sub>B</sub> =-10mA*<br>I <sub>C</sub> =-0.5A, I <sub>B</sub> =-20mA*<br>I <sub>C</sub> =-0.5A, I <sub>B</sub> =-50mA*                                                                                                                                                                                                                                                                                                                                             |
|                                       |                      | -140<br>-175            | -220<br>-260            | -210<br>-330      | -210<br>-330                   | mV   | I <sub>C</sub> =-1A, I <sub>B</sub> =-100mA*<br>I <sub>C</sub> =-1A, I <sub>B</sub> =-150mA*<br>I <sub>C</sub> =-1.5A, I <sub>B</sub> =-200mA*                                                                                                                                                                                                                                                                                                                                              |
| Base-Emitter Saturation Voltage       | V <sub>BE(sat)</sub> | -0.94                   | -1.05                   |                   | -0.89                          | V    | I <sub>C</sub> =-1A, I <sub>B</sub> =-150mA*<br>I <sub>C</sub> =-1.5A, I <sub>B</sub> =-200mA*                                                                                                                                                                                                                                                                                                                                                                                              |
| Base-Emitter Turn-On Voltage          | V <sub>BE(on)</sub>  | -0.78                   | -1.0                    |                   | -0.71                          | V    | I <sub>C</sub> =-1A, V <sub>CE</sub> =-10V*<br>I <sub>C</sub> =-1.5A, V <sub>CE</sub> =-5V*                                                                                                                                                                                                                                                                                                                                                                                                 |
| Static Forward Current Transfer Ratio | h <sub>FE</sub>      | 300<br>300<br>175<br>40 | 470<br>450<br>275<br>60 | 300<br>300<br>250 | 475<br>450<br>375<br>250<br>30 |      | I <sub>C</sub> =-10mA, V <sub>CE</sub> =-5V*<br>I <sub>C</sub> =-10mA, V <sub>CE</sub> =-10V*<br>I <sub>C</sub> =-0.1A, V <sub>CE</sub> =-5V*<br>I <sub>C</sub> =-0.1A, V <sub>CE</sub> =-10V*<br>I <sub>C</sub> =-0.5A, V <sub>CE</sub> =-10V*<br>I <sub>C</sub> =-1A, V <sub>CE</sub> =-5V*<br>I <sub>C</sub> =-1A, V <sub>CE</sub> =-10V*<br>I <sub>C</sub> =-1.5A, V <sub>CE</sub> =-5V*<br>I <sub>C</sub> =-1.5A, V <sub>CE</sub> =-10V*<br>I <sub>C</sub> =-3A, V <sub>CE</sub> =-5V* |
| Transition Frequency                  | f <sub>T</sub>       | 150                     | 200                     | 150               | 200                            | MHz  | I <sub>C</sub> =-50mA, V <sub>CE</sub> =-10V<br>f=100MHz                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| Output Capacitance                    | C <sub>ob0</sub>     |                         | 14                      | 20                | 13                             | pF   | V <sub>CB</sub> =-10V, f=1MHz                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| Turn-On Time                          | t <sub>(on)</sub>    |                         | 40                      |                   | 50                             | ns   | V <sub>CE</sub> =-50V, I <sub>C</sub> =-0.5A                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| Turn-Off Time                         | t <sub>(off)</sub>   |                         | 700                     |                   | 760                            | ns   | I <sub>B</sub> =I <sub>B2</sub> =-50mA                                                                                                                                                                                                                                                                                                                                                                                                                                                      |

\*Measured under pulsed conditions. Pulse width=300µs. Duty cycle ≤ 2%

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## FMMT718

## TYPICAL CHARACTERISTICS

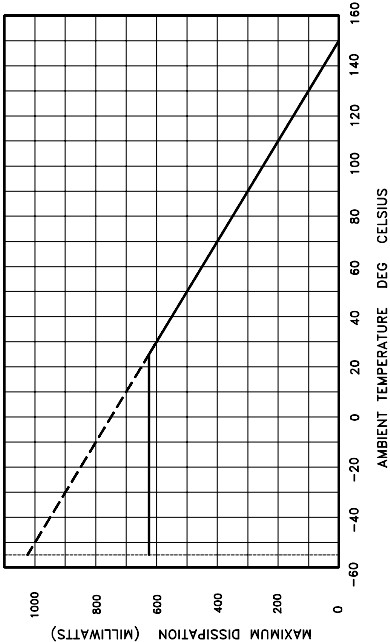


FMMT617 FMMT624  
FMMT618 FMMT625  
FMMT619

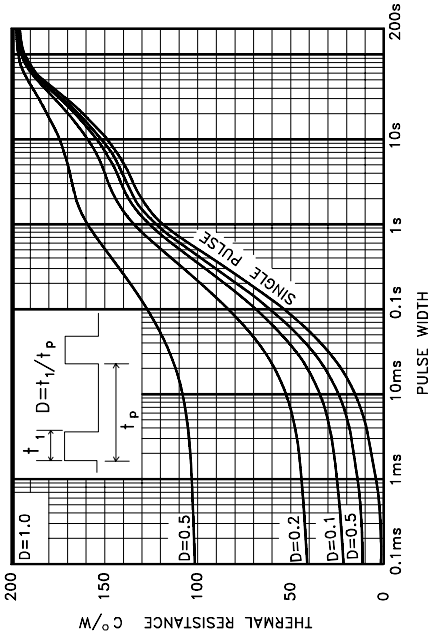
SuperSOT Series

FMMT717 FMMT722  
FMMT718 FMMT723  
FMMT720

HERMAL CHARACTERISTICS AND DERATING INFORMATION



DERATING CURVE



MAXIMUM TRANSIENT THERMAL RESISTANCE

Reference above figures, Devices were mounted on a 15mmx15mm ceramic substrate