

**Micro Commercial Components** 



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# **FMMT718**

# **Features**

- Halogen free available upon request by adding suffix "-HF" Lead Free Finish/RoHS Compliant ("P" Suffix designates RoHS Compliant. See ordering information)
- **Extremely Low Saturation Voltage**
- Epoxy meets UL 94 V-0 flammability rating
- Moisure Sensitivity Level 1
- Marking:718

### **Maximum Ratings**

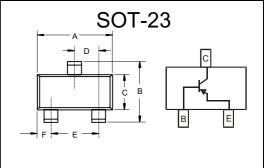
| Symbol           | Rating                                      | Rating      | Unit                   |
|------------------|---|-------------|------------------------|
| $V_{CEO}$        | Collector-Emitter Voltage                   | -20         | V                      |
| $V_{CBO}$        | Collector-Base Voltage                      | -20         | V                      |
| $V_{EBO}$        | Emitter-Base Voltage                        | -7.0        | V                      |
| Ic               | Collector Current-Continuous                | -1.5        | Α                      |
| Ι <sub>Β</sub>   | Base Current                                | -0.5        | Α                      |
| $R_{thJA}$       | Thermal Resistance From Junction to Ambient | 357         | ∘C/W                   |
| Pc               | Power Dissipation                           | 350         | mW                     |
| $T_J$            | Operating Junction Temperature              | -55 to +150 | $^{\circ}$             |
| T <sub>STG</sub> | Storage Temperature                         | -55 to +150 | $^{\circ}\!\mathbb{C}$ |

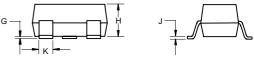
## Electrical Characteristics @ 25°C Unless Otherwise Specified

| Symbol                                  | Parameter   | Min                     | Max                     | Units    |  |
|---|---|-------------------------|-------------------------|----------|--|
| OFF CHARA                               | CTERISTICS  |                         |                         |          |  |
| $V_{(BR)CEO}$                           | Collector-Emitter Breakdown Voltage* (I <sub>C</sub> =-10mAdc, I <sub>B</sub> =0)   | -20                     |                         | Vdc      |  |
| $V_{(BR)CBO}$                           | Collector-Base Breakdown Voltage (I <sub>C</sub> =-100µAdc, I <sub>E</sub> =0)  | -20                     |                         | Vdc      |  |
| $V_{(BR)EBO}$                           | Emitter-Base Breakdown Voltage (I <sub>E</sub> =-100μAdc, I <sub>C</sub> =0) -7.0   |                         |                         |          |  |
| I <sub>CBO</sub>                        | Collector Cutoff Current (V <sub>CB</sub> =-15Vdc, I <sub>E</sub> =0Vdc)0.1   |                         |                         |          |  |
| I <sub>EBO</sub>                        | Emitter Cutoff Current (V <sub>EB</sub> =-4.0Vdc, I <sub>C</sub> =0)  | -0.1                    | uAdc                    |          |  |
| V <sub>CE(sat)</sub>                    | Collector-Emitter Saturation Voltage * (I <sub>C</sub> =-100mAdc, I <sub>B</sub> =-10mAdc) (I <sub>C</sub> =-1Adc, I <sub>B</sub> =-20mAdc) (I <sub>C</sub> =-1.5Adc,I <sub>B</sub> =-50mAdc) |                         | -0.04<br>-0.20<br>-0.22 | Vdc      |  |
| $V_{BE(sat)}$                           | Base-Emitter Saturation Voltage* (I <sub>C</sub> =-1.5Adc, I <sub>B</sub> =-50mAdc)   |                         | -1.0                    | Vdc      |  |
| $V_{BE(ON)}$                            | Base-Emitter Voltage* (V <sub>CE</sub> =-2Vdc, I <sub>C</sub> =-2.0Adc)   |                         | -1.0                    | Vdc      |  |
| h <sub>FE</sub>                         | DC Current Gain * $(V_{CE}=-2Vdc, I_{C}=-10mAdc)$ $(V_{CE}=-2Vdc, I_{C}=-100mAdc)$ $(V_{CE}=-2Vdc, I_{C}=-2Adc)$ $(V_{CE}=-2Vdc, I_{C}=-4Adc)$  | 300<br>300<br>150<br>35 | <br><br>                |          |  |
| f <sub>T</sub>                          | Transition Frequency (I <sub>C</sub> =-50mAdc, V <sub>CE</sub> =-10Vdc, f=100MHz)   | 150                     |                         | MHz      |  |
| t <sub>(on)</sub><br>t <sub>(off)</sub> | Turn-on Time Turn-off Time (Vcc=-10Vdc, Ic=-1Adc, Ib1=Ib2=-20mAdc)  | 40(typ)<br>670(typ)     |                         | ns<br>ns |  |
| C <sub>ob</sub>                         | Output Capacitance<br>(V <sub>CB</sub> =-10Vdc, f=1.0MHz)   |                         |                         | pF       |  |

<sup>\*.</sup>Pulse test: Pul width≤300µs,duty cycle≤2.0%.

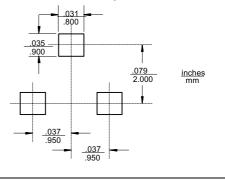
# **PNP Silicon Planar High Performance Transistor**





| DIMENSIONS |       |       |      |      |      |
|------------|-------|-------|------|------|------|
|            | INCH  | IES   | -    | мм   |      |
| DIM        | MIN   | MAX   | MIN  | MAX  | NOTE |
| Α          | .110  | .120  | 2.80 | 3.04 |      |
| В          | .083  | .104  | 2.10 | 2.64 |      |
| С          | .047  | .055  | 1.20 | 1.40 |      |
| D          | .035  | .041  | .89  | 1.03 |      |
| Е          | .070  | .081  | 1.78 | 2.05 |      |
| F          | .018  | .024  | .45  | .60  |      |
| Ð          | .0005 | .0039 | .013 | .100 |      |
| Τ          | .035  | .044  | .89  | 1.12 |      |
| ٦          | .003  | .007  | .085 | .180 |      |
| K          | .015  | .020  | .37  | .51  |      |

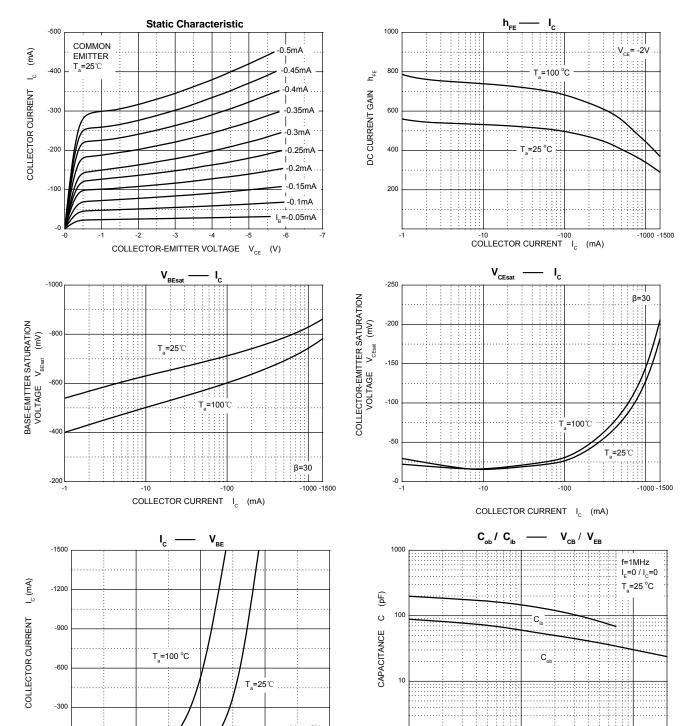
### Suggested Solder Pad Layout





-1 REVERSE VOLTAGE V (V)

## **Typical Characteristics**



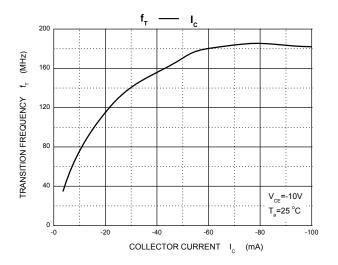
-1000

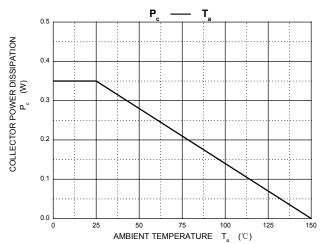
V<sub>BE</sub>(mV)

400 -600 BASE-EMITTER VOLTAGE



# **Typical Characteristics**





Revision: A 3 of 4 2016/02/10



## Ordering Information:

| Device         | Packing              |
|----------------|----------------------|
| Part Number-TP | Tape&Reel 3Kpcs/Reel |

Note: Adding "-HF" suffix for halogen free, eg. Part Number-TP-HF

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