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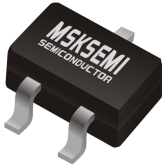
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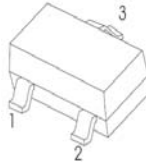
PLED

Product data sheet

FMMT* 18 TRANSISTOR (BDB)



SOT - 23



- 1. BASE
- 2. EMITTER
- 3. COLLECTOR

FEATURE

- Extremely low saturation voltage
- Complementary PNU type: FMMTĪ 18

APPLICATION

- Gate Driving MOSFETs and IGBTs
- DC-DC converters
- Charging circuit
- Power switches

MARKING: * 18

MAXIMUM RATINGS (T_a=25°C unless otherwise noted)

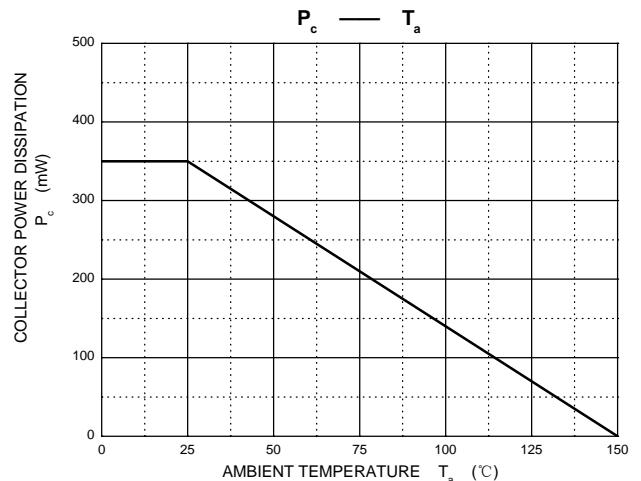
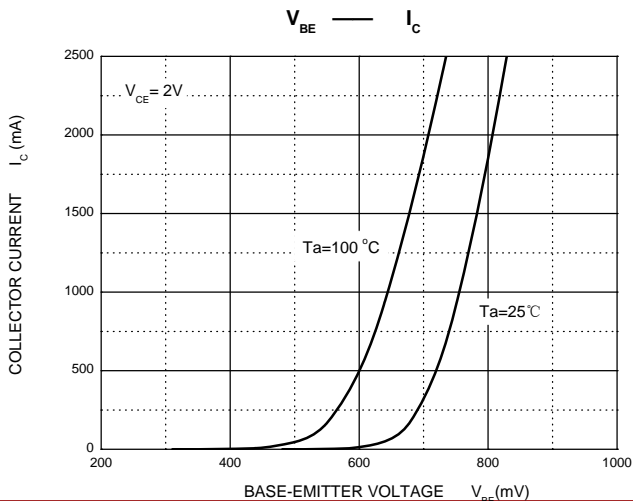
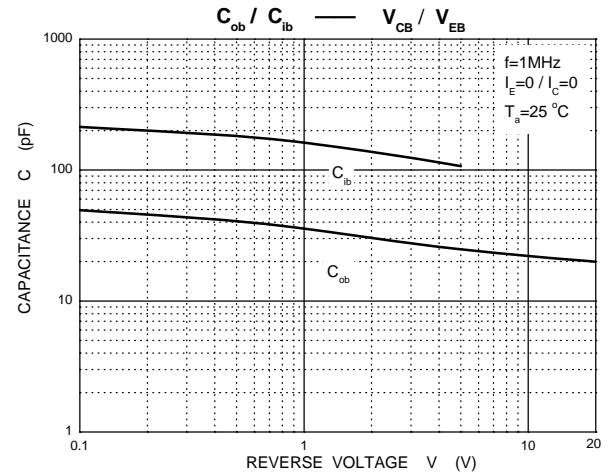
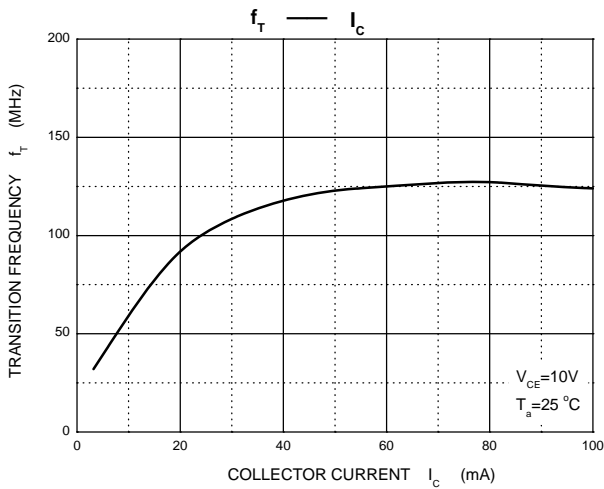
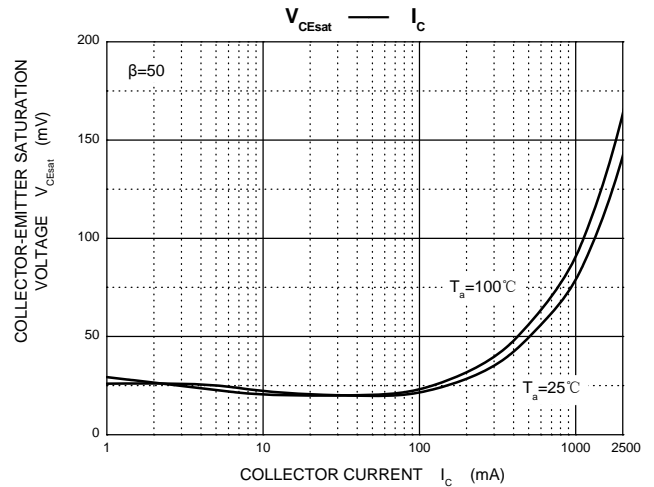
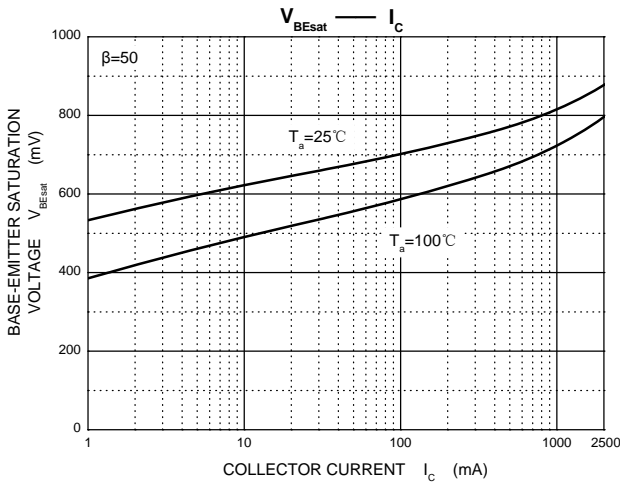
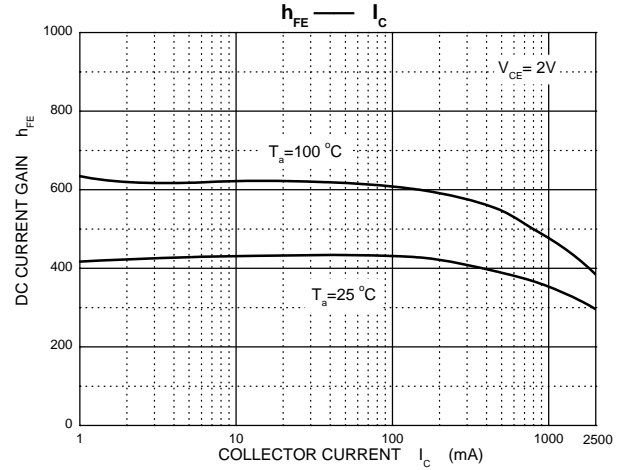
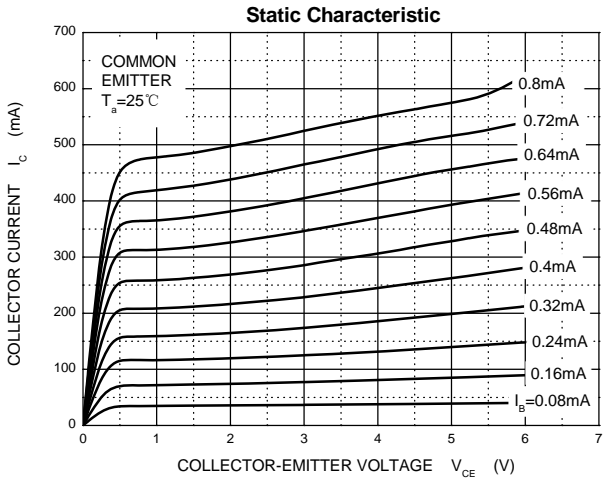
| Symbol | Parameter | Value | Unit |
|-----------------------------------|--|----------|------|
| V _{CB0} | Collector-Base Voltage | 20 | V |
| V _{CE0} | Collector-Emitter Voltage | 20 | V |
| V _{EB0} | Emitter-Base Voltage | 5 | V |
| I _B | Base Current | 0.5 | A |
| I _c | Collector Current -Continuous | 2.5 | A |
| P _C | Total Collector Dissipation | 350 | mW |
| R _{θJA} | Thermal Resistance from Junction to Ambient | 357 | °C/W |
| T _J , T _{stg} | Operation Junction and Storage Temperature Range | -55~+150 | °C |

ELECTRICAL CHARACTERISTICS (T_a=25°C unless otherwise specified)

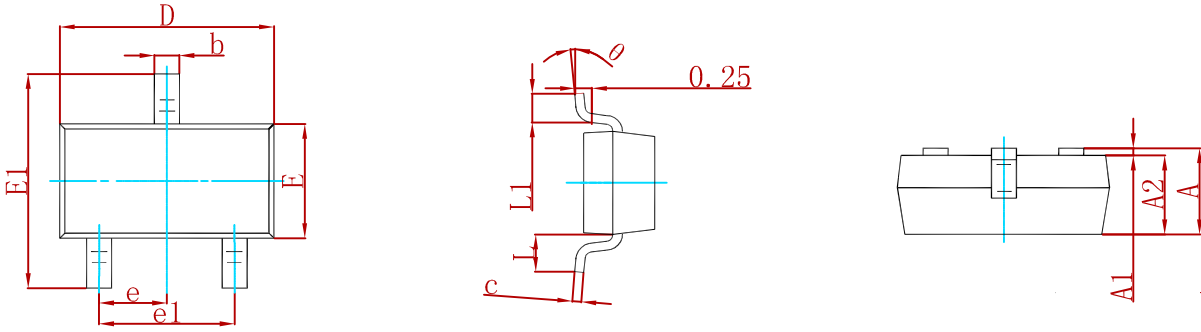
| Parameter | Symbol | Test conditions | Min | Typ | Max | Unit |
|---|-----------------------|---|-----|-----|-----|------|
| Collector-base breakdown voltage | V _{(BR)CBO} | I _C =100μA, I _E =0 | 20 | | | V |
| Collector-emitter breakdown voltage (note 1) | V _{(BR)CEO} | I _C =10mA, I _B =0 | 20 | | | V |
| Emitter-base breakdown voltage | V _{(BR)EBO} | I _E =100μA, I _C =0 | 5 | | | V |
| Collector cut-off current | I _{CBO} | V _{CB} =16V, I _E =0 | | | 100 | nA |
| Emitter cut-off current | I _{EBO} | V _{EB} =4V, I _C =0 | | | 100 | nA |
| DC current gain (note 1) | h _{FE(1)} | V _{CE} =2V, I _C =10mA | 200 | | | |
| | h _{FE(2)} | V _{CE} =2V, I _C =0.2A | 300 | | | |
| | h _{FE(3)} | V _{CE} =2V, I _C =2A | 200 | | | |
| | h _{FE(4)} | V _{CE} =2V, I _C =4A | 100 | | | |
| Collector-emitter saturation voltage (note 1) | V _{CE(sat)1} | I _C =0.1A, I _B =10mA | | | 15 | mV |
| | V _{CE(sat)2} | I _C =1A, I _B =10mA | | | 150 | mV |
| | V _{CE(sat)3} | I _C =2A, I _B =10mA | | | 200 | mV |
| Base-emitter saturation voltage (note 1) | V _{BE(sat)} | I _C =2A, I _B =50mA | | | 1 | V |
| Base-emitter on voltage (note 1) | V _{BE(on)} | I _C =2A, V _{CE} =2V | | | 1 | V |
| Output capacitance | C _{ob} | V _{CB} =10V, f=1MHz | | | 30 | pF |
| Turn-on time | t _(on) | V _{CC} =10V, I _C =1A, I _{B1} =-I _{B2} =10mA | | 170 | | ns |
| Turn-off time | t _(off) | | | 400 | | ns |
| Transition frequency | f _T | V _{CE} =10V, I _C =50mA, f=100MHz | 100 | | | MHz |

Notes :

1. Pulse test: Pulse width≤300μs, duty cycle≤2.0%.

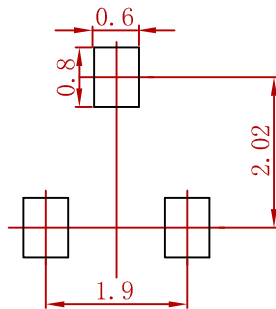


PACKAGE MECHANICAL DATA



| Symbol | Dimensions In Millimeters | | Dimensions In Inches | |
|--------|---------------------------|-------|----------------------|-------|
| | Min | Max | Min | Max |
| A | 0.900 | 1.150 | 0.035 | 0.045 |
| A1 | 0.000 | 0.100 | 0.000 | 0.004 |
| A2 | 0.900 | 1.050 | 0.035 | 0.041 |
| b | 0.300 | 0.500 | 0.012 | 0.020 |
| c | 0.080 | 0.150 | 0.003 | 0.006 |
| D | 2.800 | 3.000 | 0.110 | 0.118 |
| E | 1.200 | 1.400 | 0.047 | 0.055 |
| E1 | 2.250 | 2.550 | 0.089 | 0.100 |
| e | 0.950 TYP | | 0.037 TYP | |
| e1 | 1.800 | 2.000 | 0.071 | 0.079 |
| L | 0.550 REF | | 0.022 REF | |
| L1 | 0.300 | 0.500 | 0.012 | 0.020 |
| θ | 0° | 8° | 0° | 8° |

Suggested Pad Layout



- Note:
1. Controlling dimension: in millimeters.
 2. General tolerance: ± 0.05mm.
 3. The pad layout is for reference purposes only.

REEL SPECIFICATION

| P/N | PKG | QTY |
|---------|--------|------|
| FMMT618 | SOT-23 | 3000 |

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