

# MSKSEMI

SEMICONDUCTOR



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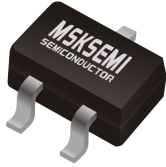
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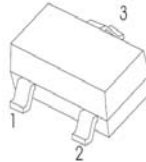
PLED

Product data sheet  
Product data sheet

**FMMT+%** TRANSISTOR (PNP)



SOT - 23



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

**FEATURE**

- Extremely low saturation voltage
- Complementary NPN type: FMMT618

**APPLICATION**

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

**MARKING: 718**

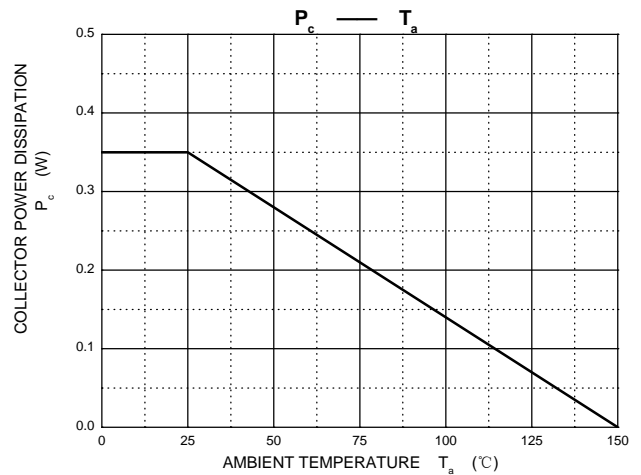
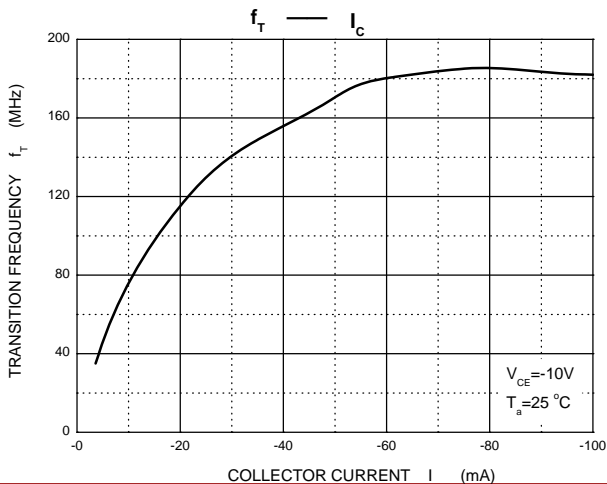
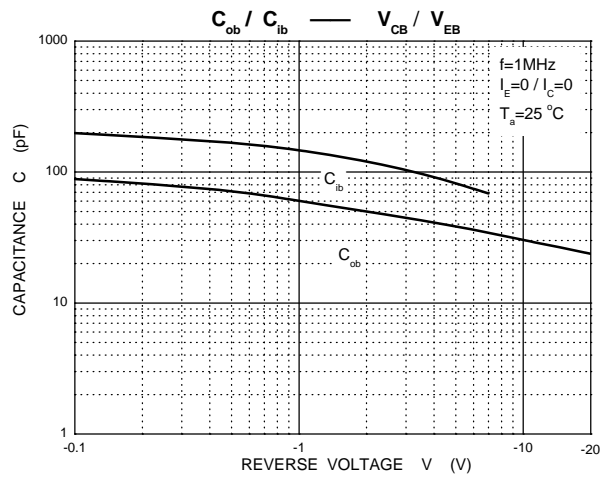
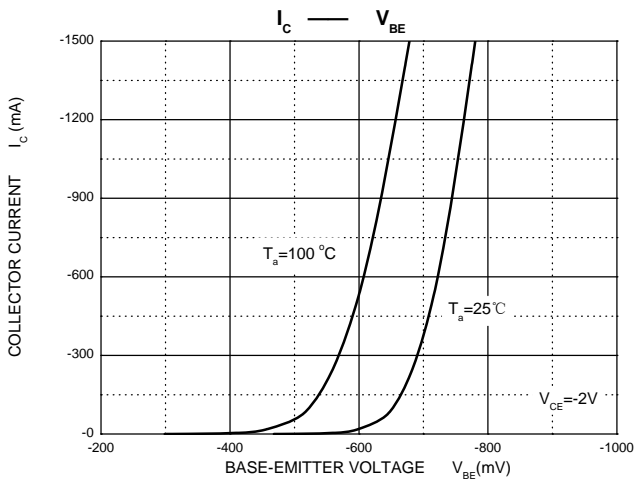
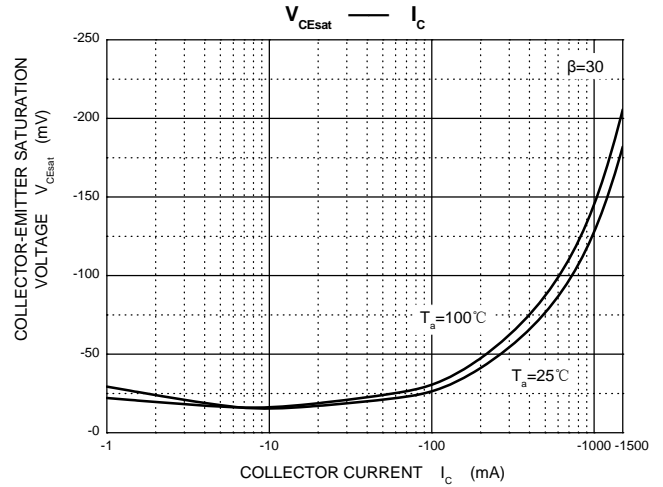
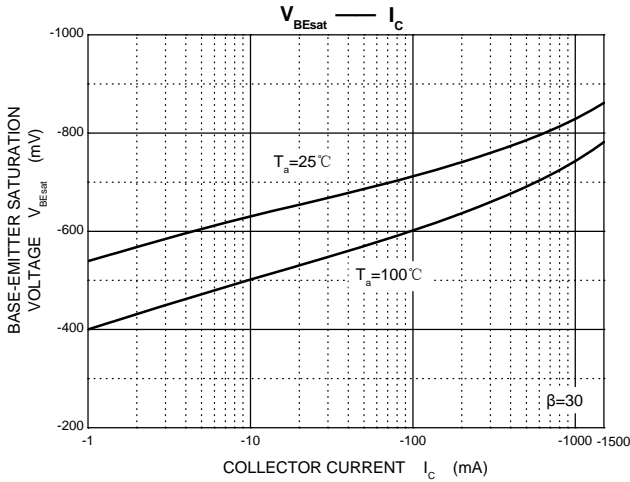
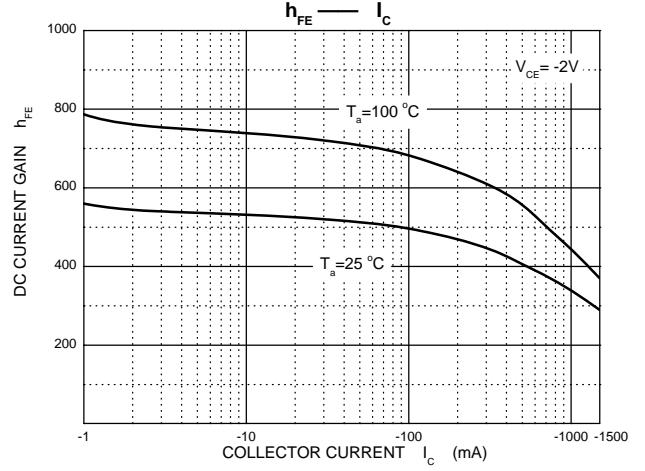
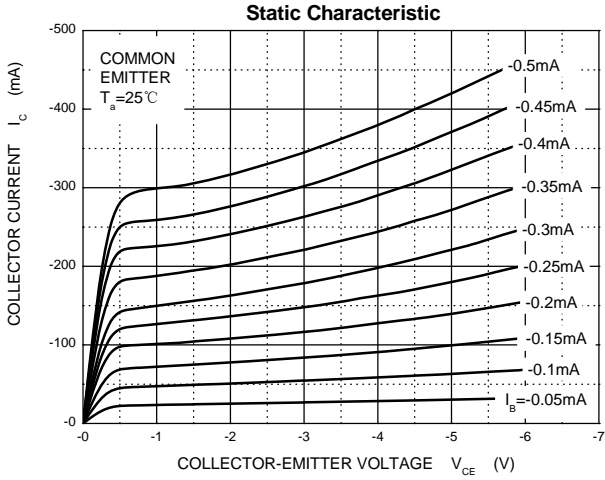
**MAXIMUM RATINGS (T<sub>a</sub>=25°C unless otherwise noted)**

Symbol	Parameter	Value	Unit
V <sub>CB0</sub>	Collector-Base Voltage	-20	V
V <sub>CE0</sub>	Collector-Emitter Voltage	-20	V
V <sub>EB0</sub>	Emitter-Base Voltage	-7	V
I <sub>B</sub>	Base Current	-0.5	A
I <sub>C</sub>	Collector Current -Continuous	-1.5	A
P <sub>C</sub>	Total Collector Dissipation	350	mW
R <sub>θJA</sub>	Thermal Resistance from Junction to Ambient	357	°C/W
T <sub>J</sub> , T <sub>stg</sub>	Operation Junction and Storage Temperature Range	-55~+150	°C

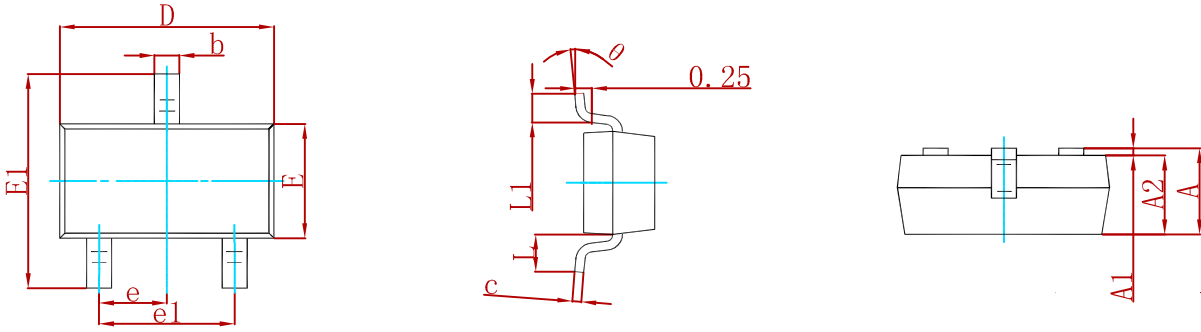
**ELECTRICAL CHARACTERISTICS (T<sub>a</sub>=25°C unless otherwise specified)**

Parameter	Symbol	Test conditions	Min	Typ	Max	Unit
Collector-base breakdown voltage	V <sub>(BR)CBO</sub>	I <sub>C</sub> =-100μA, I <sub>E</sub> =0	-20			V
Collector-emitter breakdown voltage	V <sub>(BR)CEO</sub>	I <sub>C</sub> = -10mA, I <sub>B</sub> =0	-20			V
Emitter-base breakdown voltage	V <sub>(BR)EBO</sub>	I <sub>E</sub> = -100μA, I <sub>C</sub> =0	-7			V
Collector cut-off current	I <sub>CBO</sub>	V <sub>CB</sub> =-15V, I <sub>E</sub> =0			-0.1	μA
Collector cut-off current	I <sub>CES</sub>	V <sub>CE</sub> =-15V, V <sub>BE</sub> =0			-0.1	μA
Emitter cut-off current	I <sub>EBO</sub>	V <sub>EB</sub> = -4V, I <sub>C</sub> =0			-0.1	μA
DC current gain	h <sub>FE(1)</sub> *	V <sub>CE</sub> = -2V, I <sub>C</sub> =-10mA	300			
	h <sub>FE(2)</sub> *	V <sub>CE</sub> =-2V, I <sub>C</sub> =-100mA	300	600		
	h <sub>FE(3)</sub> *	V <sub>CE</sub> =-2V, I <sub>C</sub> =-2A	150			
	h <sub>FE(4)</sub> *	V <sub>CE</sub> =-2V, I <sub>C</sub> =-4A	35			
Collector-emitter saturation voltage	V <sub>CE(sat) (1)</sub> *	I <sub>C</sub> =-0.1A, I <sub>B</sub> =-10mA			-40	mV
	V <sub>CE(sat) (2)</sub> *	I <sub>C</sub> =-1A, I <sub>B</sub> =-20mA			-200	mV
	V <sub>CE(sat) (3)</sub> *	I <sub>C</sub> =-1.5A, I <sub>B</sub> =-50mA			-220	mV
Base-emitter saturation voltage	V <sub>BE(sat)</sub> *	I <sub>C</sub> =-1.5A, I <sub>B</sub> = -50mA			-1	V
Base-emitter voltage	V <sub>BE(on)</sub> *	V <sub>CE</sub> =-2V, I <sub>C</sub> =-2A			-1	V
Transition frequency	f <sub>T</sub>	V <sub>CE</sub> =-10V, I <sub>C</sub> =-50mA, f=100MHZ	150			MHz
Collector output capacitance	C <sub>ob</sub>	V <sub>CB</sub> =-10V, f=1MHz			30	pF
Turn-on Time	t <sub>(on)</sub>	V <sub>CC</sub> =-10V, I <sub>C</sub> =-1A, I <sub>B1</sub> =I <sub>B2</sub> =-20mA		40		ns
Turn-off Time	t <sub>(off)</sub>			670		ns

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

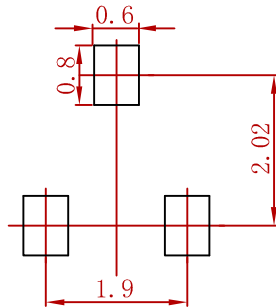


**PACKAGE MECHANICAL DATA**



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
FMMT718	SOT-23	3000

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