

MSKSEMI

SEMICONDUCTOR



ESD



TVS



TSS



MOV



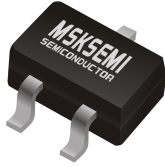
GDT



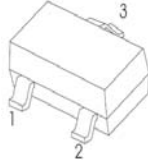
PLED

Product data sheet

FMMT720 TRANSISTOR (PNP)



SOT - 23



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

FEATURE

- Switching transistor
- Extremely low saturation voltage
- Complementary NPN type: FMMT619

APPLICATION

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

MARKING: 720

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

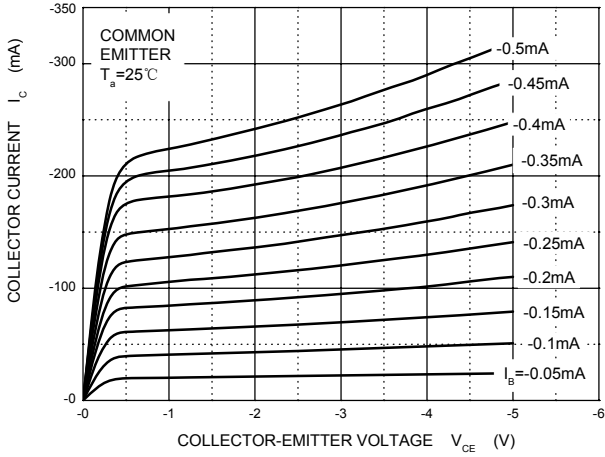
Symbol	Parameter	Value	Unit
V _{CB0}	Collector-Base Voltage	-40	V
V _{CEO}	Collector-Emitter Voltage	-40	V
V _{EBO}	Emitter-Base Voltage	-5	V
I _B	Base Current	-0.5	A
I _C *	Collector Current -Continuous	-1.5	A
I _{CM}	Peak Pulse Current	-4	A
P _C	Total Collector Dissipation	350	mW
R _{θJA}	Thermal Resistance from Junction to Ambient	357	°C/W
T _J	Junction Temperature	150	°C
T _{stg}	Storage Temperature	-55~+150	°C

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

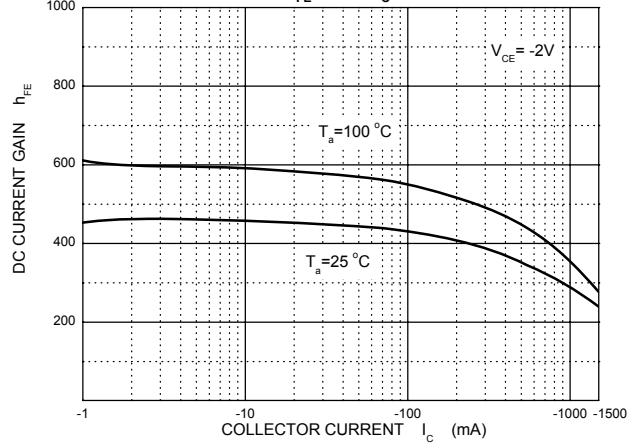
Parameter	Symbol	Test conditions	Min	Typ	Max	Unit
Collector-base breakdown voltage	V _{(BR)CBO}	I _C =-100μA, I _E =0	-40			V
Collector-emitter breakdown voltage	V _{(BR)CEO} *	I _C = -10mA, I _B =0	-40			V
Emitter-base breakdown voltage	V _{(BR)EBO}	I _E = -100μA, I _C =0	-5			V
Collector cut-off current	I _{CBO}	V _{CB} =-35V, I _E =0			-0.1	μA
Collector cut-off current	I _{CES}	V _{CE} =-35V, V _{BE} =0			-0.1	μA
Emitter cut-off current	I _{EBO}	V _{EB} = -4V, I _C =0			-0.1	μA
DC current gain	h _{FE(1)} *	V _{CE} = -2V, I _C =-10mA	300			
	h _{FE(2)} *	V _{CE} =-2V, I _C =-100mA	300			
	h _{FE(3)} *	V _{CE} =-2V, I _C =-1A	180			
	h _{FE(4)} *	V _{CE} =-2V, I _C =-1.5A	60			
	h _{FE(5)} *	V _{CE} =-2V, I _C =-3A	12			
Collector-emitter saturation voltage	V _{CE(sat)} (1) *	I _C =-0.1A, I _B =-10mA			-40	mV
	V _{CE(sat)} (2) *	I _C =-1A, I _B =-50mA			-220	mV
	V _{CE(sat)} (3) *	I _C =-1.5A, I _B =-100mA			-330	mV
Base-emitter saturation voltage	V _{BE(sat)} *	I _C =-1.5A, I _B = -75mA			-1	V
Base-emitter voltage	V _{BE(on)} *	V _{CE} =-2V, I _C =-1.5A			-1	V
Transition frequency	f _T	V _{CE} =-10V, I _C =-50mA, f=100MHZ	150			MHz
Collector output capacitance	C _{ob}	V _{CB} =-10V, f=1MHZ			25	pF
Turn-on Time	t _(on)	V _{CC} =-15V, I _C =-0.75A, I _{B1} = I _{B2} =-15mA		40		ns
Turn-off Time	t _(off)			435		ns

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

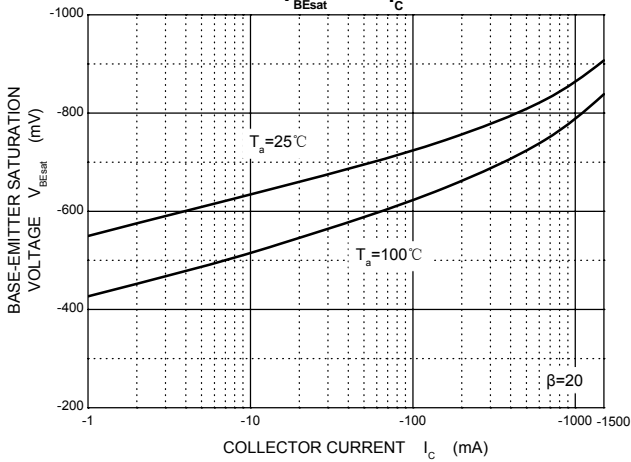
Static Characteristic



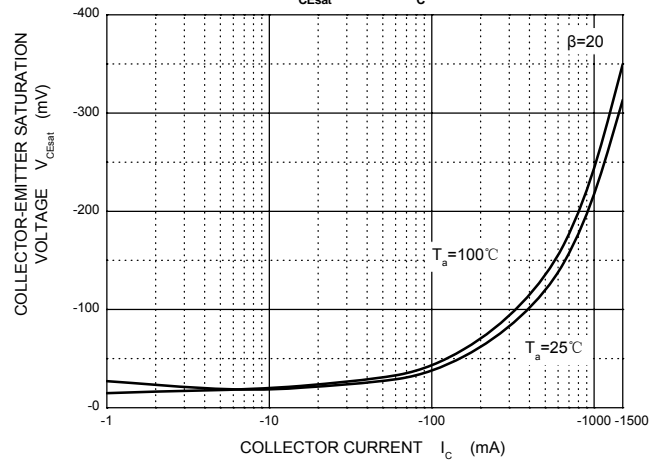
$h_{FE} - I_C$



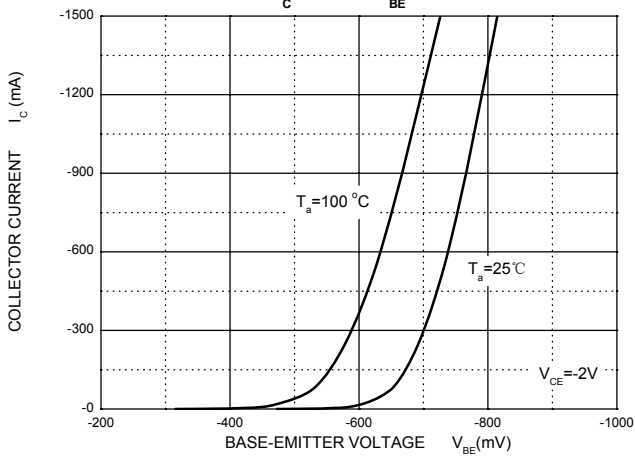
$V_{BEsat} - I_C$



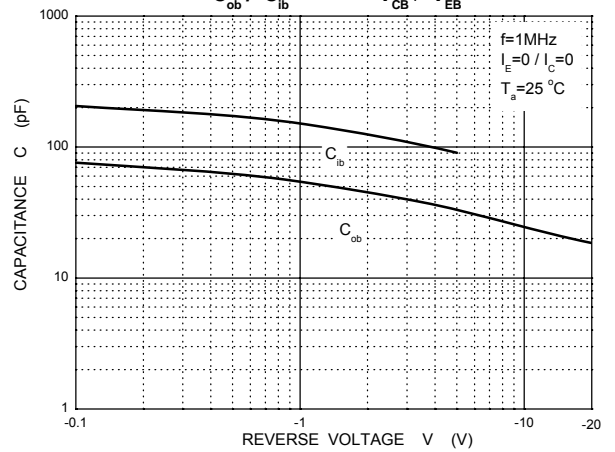
$V_{CEsat} - I_C$



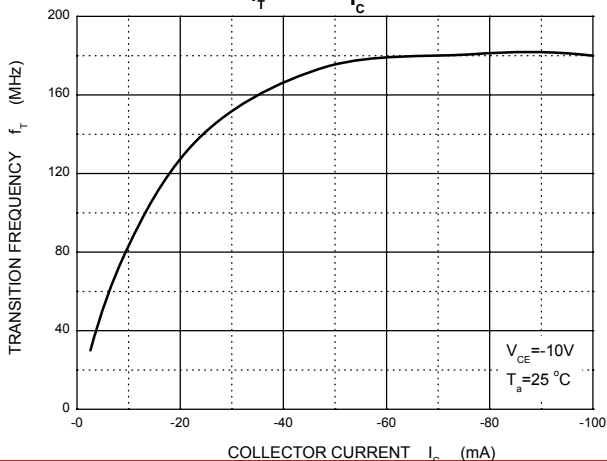
$I_C - V_{BE}$



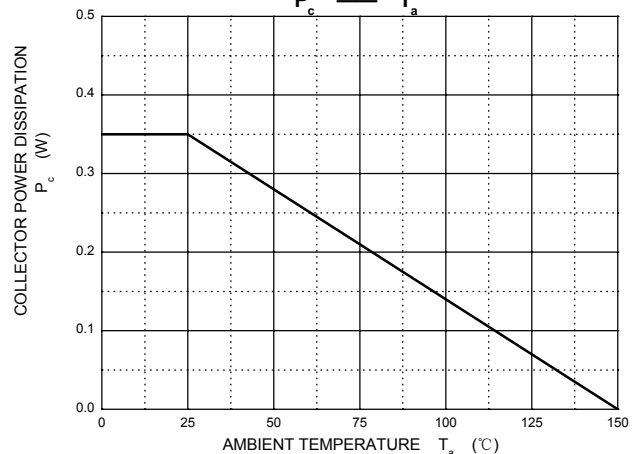
$C_{ob} / C_{ib} - V_{CB} / V_{EB}$



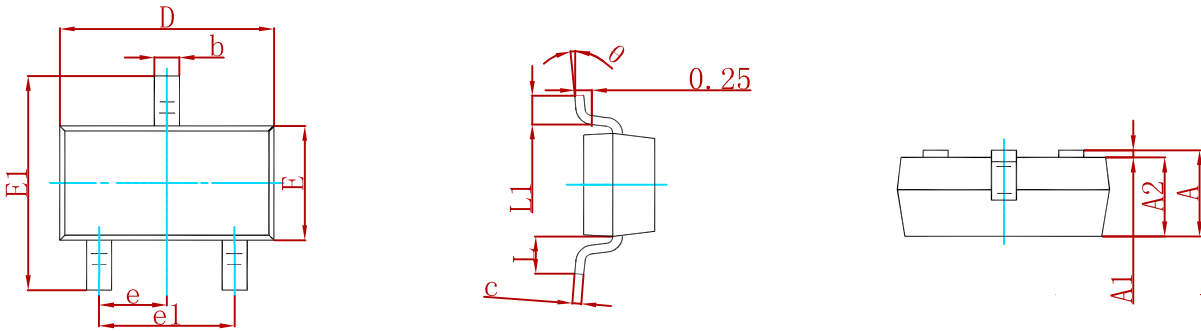
$f_T - I_C$



$P_c - T_a$

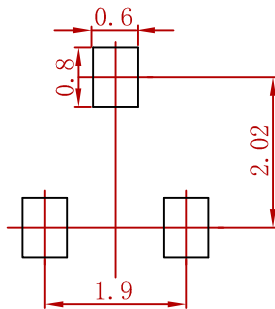


PACKAGE MECHANICAL DATA



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
FM720	SOT-23	3000

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