FMMT718 TRANSISTOR (PNP)

1.BASE
2.COLLECTOR
3.EMITTER

SOT-23-3

FEATURE

- Extremely low saturation voltage
- Complementary NPN type: FMMT618

APPLICATION

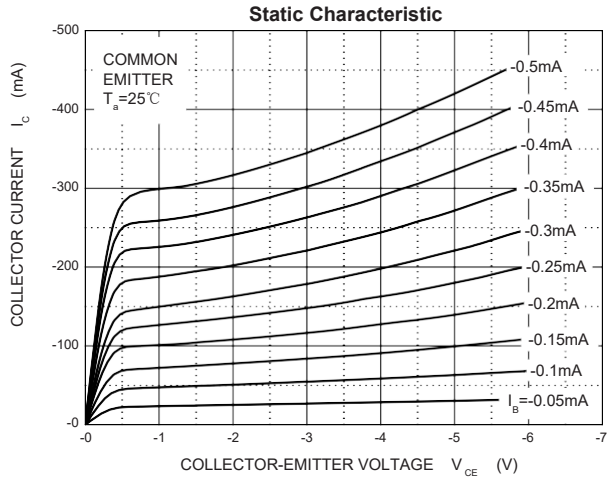
- Gate Driving MOSFETs and IGBTs
- DC-DC converters
- Charging circuit
- Power switches

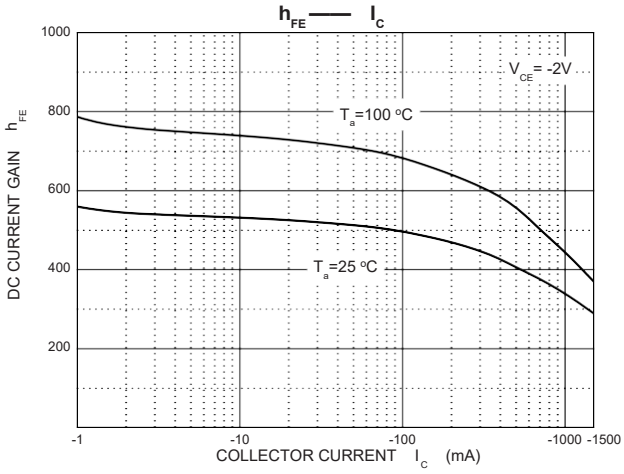
MAXIMUM RATINGS (T_a=25℃ unless otherwise noted)

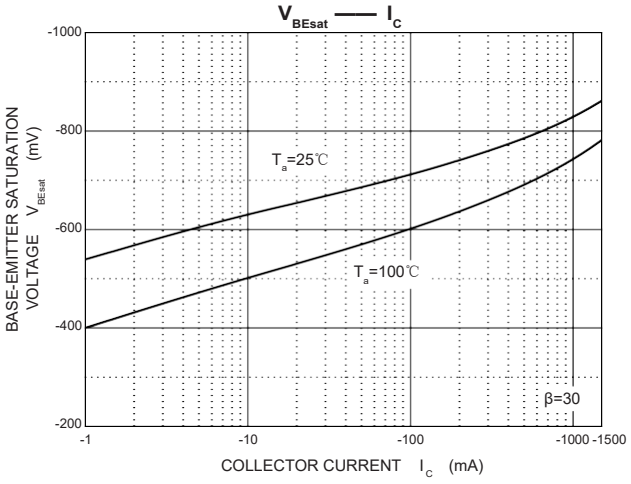
Symbol	Parameter	Value	Unit
V_{CBO}	Collector-Base Voltage	-20	V
V_{CEO}	Collector-Emitter Voltage	-20	V
V_{EBO}	Emitter-Base Voltage	-7	V
I_B	Base Current	-0.5	A
I_C	Collector Current -Continuous	-1.5	A
P_C	Total Collector Dissipation	350	mW
$R_{\Theta JA}$	Thermal Resistance from Junction to Ambient	357	℃/W
T_J,T_{stg}	Operation Junction and Storage Temperature Range	-55~+150	℃

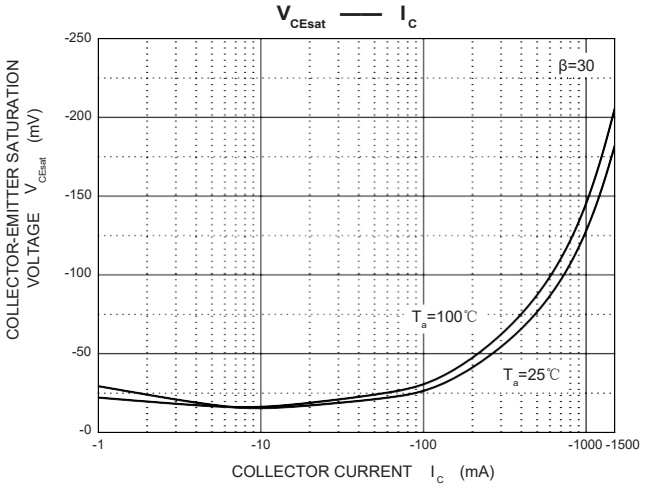
Parameter	Symbol	Test conditions	Min	Typ	Max	Unit
Collector-base breakdown voltage	$V_{(BR)CBO}$	I_C=-100μA, I_E=0	-20			V
Collector-emitter breakdown voltage	$V_{(BR)CEO}$	I_C= -10mA, I_B=0	-20			V
Emitter-base breakdown voltage	$V_{(BR)EBO}$	I_E= -100μA, I_C=0	-7			V
Collector cut-off current	I_{CBO}	V_{CB}=-15V, I_E=0			-0.1	μA
Collector cut-off current	I_{CES}	V_{CE}=-15V,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	600		
	$h_{FE(3)}$ *	V_{CE}=-2V, I_C=-2A	150			
	$h_{FE(4)}$ *	V_{CE}=-2V, I_C=-4A	35			
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=-20mA			-200	mV
	$V_{CE(sat)(3)}$ *	I_C=-1.5A, I_B=-50mA			-220	mV
Base-emitter saturation voltage	$V_{BE(sat)}$ *	I_C=-1.5A, I_B= -50mA			-1	V
Base-emitter voltage	$V_{BE(on)}$ *	V_{CE}=-2V, I_C=-2A			-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			30	pF
Turn-on Time	$t_{(on)}$	V_{CC}=-10V, I_C=-1A, I_{B1}=I_{B2}=-20mA		40		ns
Turn-off Time	$t_{(off)}$			670		ns

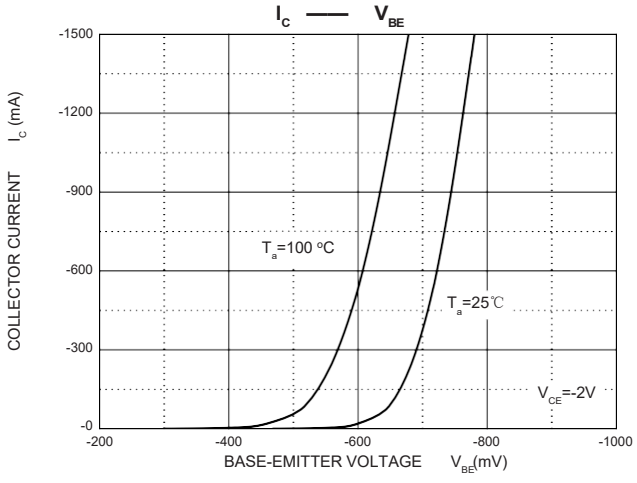
*Measured under pulse conditions . Pulse width =300μs. Duty cycle≤2%.

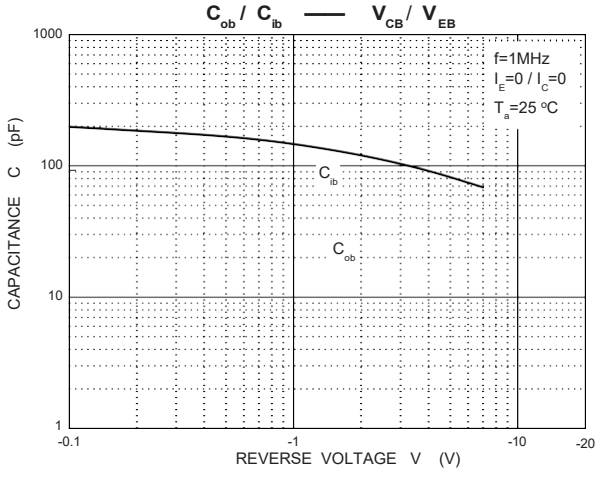

Static Characteristic
COMMON EMITTER
Ta=25℃
-0.5mA
-0.45mA
-0.4mA
-0.35mA
-0.3mA
-0.25mA
-0.2mA
-0.15mA
-0.1mA
IB=-0.05mA
COLLECTOR CURRENT IC (mA)
COLLECTOR-EMITTER VOLTAGE VCE (V)

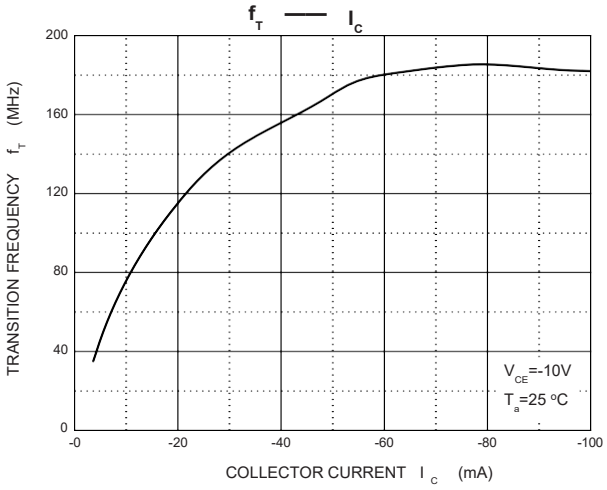

hFE — IC
VCE= -2V
Ta=100 ºC
Ta=25 ºC
DC CURRENT GAIN hFE
COLLECTOR CURRENT IC (mA)

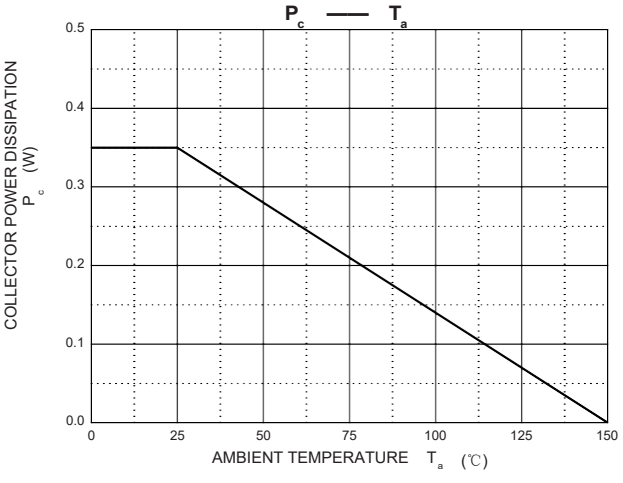

VBEsat — IC
Ta=25℃
Ta=100℃
β=30
BASE-EMITTER SATURATION VOLTAGE VBEsat (mV)
COLLECTOR CURRENT IC (mA)


VCEsat — IC
β=30
Ta=100℃
Ta=25℃
COLLECTOR-EMITTER SATURATION VOLTAGE VCEsat (mV)
COLLECTOR CURRENT IC (mA)


IC — VBE
Ta=100 ºC
Ta=25℃
VCE=-2V
COLLECTOR CURRENT IC (mA)
BASE-EMITTER VOLTAGE VBE(mV)


Cob / Cib — VCB / VEB
f=1MHz
IE=0 / IC=0
Ta=25 ºC
Cib
Cob
CAPACITANCE C (pF)
REVERSE VOLTAGE V (V)


fT — IC
VCE=-10V
Ta=25 ºC
TRANSITION FREQUENCY fT (MHz)
COLLECTOR CURRENT IC (mA)


Pc — Ta
COLLECTOR POWER DISSIPATION Pc (W)
AMBIENT TEMPERATURE Ta (℃)