Elektronische Bauelemente

MMBT718

-1.5A, -20V

PNP Plastic Encapsulated Transistor

RoHS Compliant Product
A suffix of "-C" specifies halogen and lead free

FEATURES

- Extremely Low Saturation Voltage
- Complementary to MMBT618

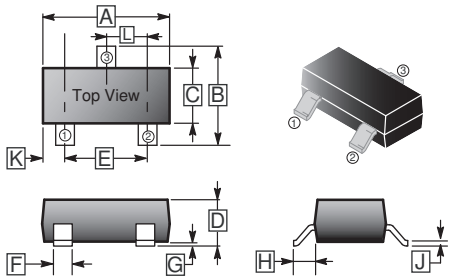
APPLICATION

- Gate Driving MOSFET and IGBT
- DC-DC Converters
- Charging Circuit
- Power Switches

MARKING

718

SOT-23



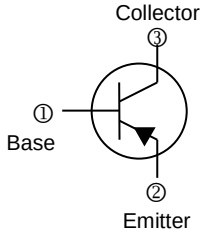
REF.	Millimeter		REF.	Millimeter	
	Min.	Max.		Min.	Max.
A	2.70	3.10	G	0	0.18
B	2.10	3.00	H	0.55 REF.	
C	1.20	1.80	J	0.08	0.26
D	0.89	1.3	K	0.6 REF.	
E	1.70	2.3	L	0.95 BSC.	
F	0.30	0.50			

PACKAGE INFORMATION

Package	MPQ	Leader Size
SOT-23	3K	7 inch

ORDER INFORMATION

Part Number	Type
MMBT718	Lead (Pb)-free
MMBT718-C	Lead (Pb)-free and Halogen-free



ABSOLUTE MAXIMUM RATINGS (T_A=25℃ unless otherwise noted)

Parameter	Symbol	Ratings	Unit
Collector-Base Voltage	V_{CBO}	-20	V
Collector-Emitter Voltage	V_{CEO}	-20	V
Emitter-Base Voltage	V_{EBO}	-7	V
Collector Current	I_C	-1.5	A
Base Current	I_B	-0.5	A
Collector Power Dissipation	P_C	350	mW
Thermal Resistance from Junction-Ambient	$R_{\theta JA}$	357	℃/W
Junction, Storage Temperature Range	T_J, T_{STG}	150, -55~150	℃

ELECTRICAL CHARACTERISTICS (T_A=25℃ unless otherwise noted)

Parameter	Symbol	Min.	Typ.	Max.	Unit	Test Conditions
Collector-Base Breakdown Voltage	$V_{(BR)CBO}$	-20	-	-	V	I_C= -100μA, I_E=0
Collector-Emitter Breakdown Voltage	$V_{(BR)CEO}$	-20	-	-	V	I_C= -10mA, I_B=0
Emitter-Base Breakdown Voltage	$V_{(BR)EBO}$	-7	-	-	V	I_E= -100μA, I_C=0
Collector Cut-off Current	I_{CBO}	-	-	-0.1	uA	V_{CB}= -15V, I_E=0
Collector Cut-off Current	I_{CES}	-	-	-0.1	uA	V_{CE}= -15V, V_{BE}=0
Emitter Cut-off Current	I_{EBO}	-	-	-0.1	uA	V_{EB}= -4V, I_C=0
DC Current Gain [1]	h_{FE}	300	-	-		V_{CE}= -2V, I_C= -10mA
		300	600	-		V_{CE}= -2V, I_C= -100mA
		150	-	-		V_{CE}= -2V, I_C= -2A
		35	-	-		V_{CE}= -2V, I_C= -4A
Collector-Emitter Saturation Voltage [1]	$V_{CE(sat)}$	-	-	-40	mV	I_C= -0.1A, I_B= -10mA
		-	-	-200		I_C= -1A, I_B= -20mA
		-	-	-220		I_C= -1.5A, I_B= -50mA
Base-Emitter Saturation Voltage [1]	$V_{BE(sat)}$	-	-	-1	V	I_C= -1.5A, I_B= -50mA
Base-Emitter Voltage [1]	$V_{BE(ON)}$	-	-	-1	V	I_C= -2A, V_{CE}= -2V
Transition Frequency	f_T	-	150	-	MHz	V_{CE}= -10V, I_C= -50mA, f=100MHz
Collector Output Capacitance	C_{ob}	-	30	-	pF	V_{CB}= -10V, f=1MHz
Turn-on Time	$t_{(on)}$	-	40	-	nS	V_{CC}=-10V,I_C= -1A, I_{B1}=I_{B2}=-20mA
Turn-off Time	$t_{(off)}$	-	670	-		

Note:

1. Pulse test: pulse width≦300μs, duty cycle≦2%.

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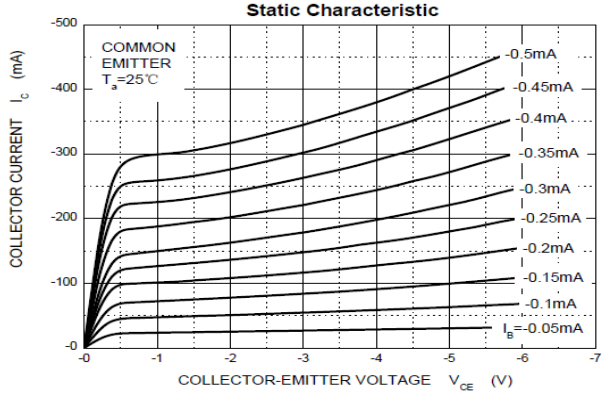
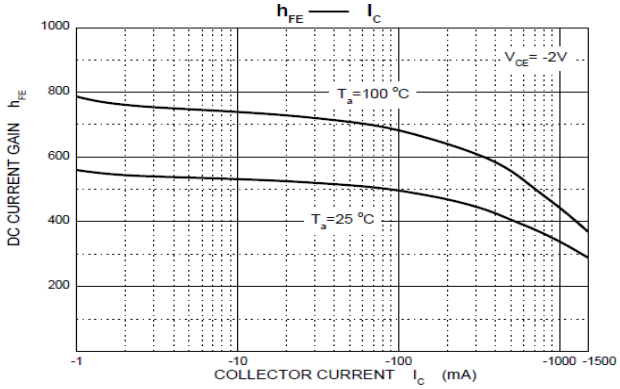
TYPICAL CHARACTERISTICS

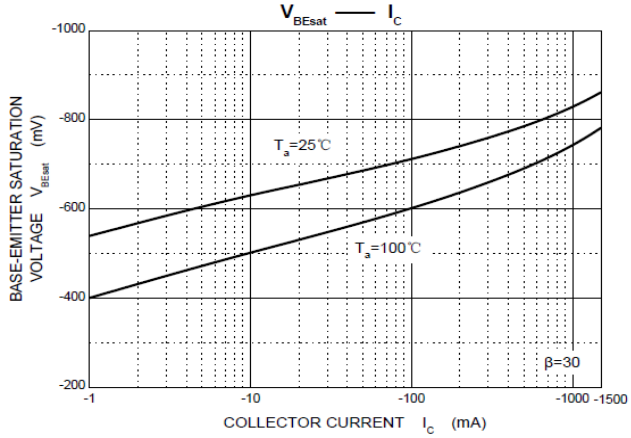
Static Characteristic



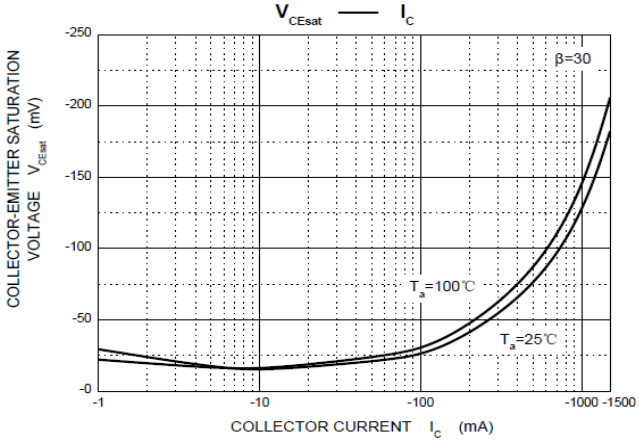
h_{FE} —— I_C



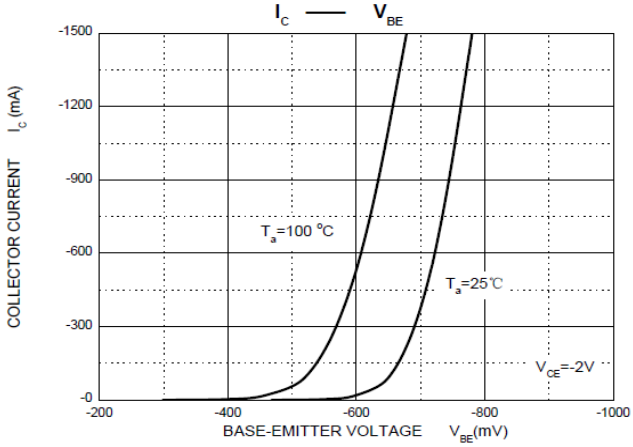
V_{BEsat} —— I_C



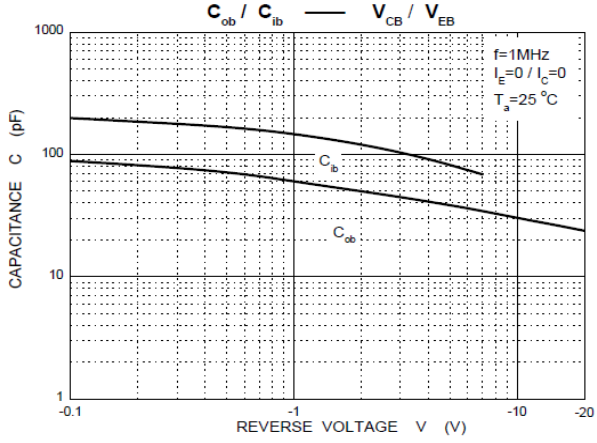
V_{CEsat} —— I_C



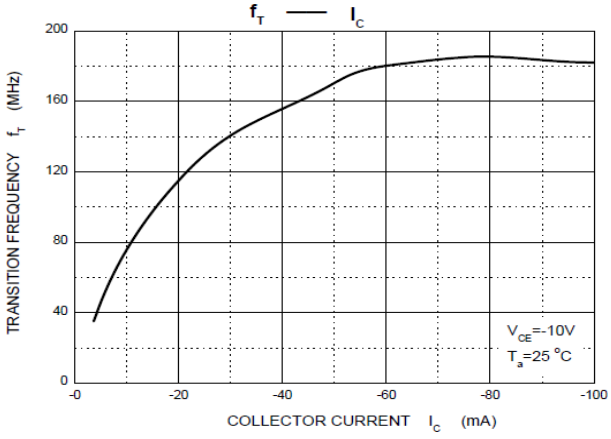
I_C —— V_{BE}



C_{ob} / C_{ib} —— V_{CB} / V_{EB}



f_T —— I_C



P_c —— T_a