Elektronische Bauelemente

MMBT720

-1.5A , -40V

PNP Plastic Encapsulated Transistor

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

FEATURES

- General Purpose Amplifier Applications
- Switching Transistor
- Extremely Low Saturation Voltage
- Complementary NPN type: MMBT619

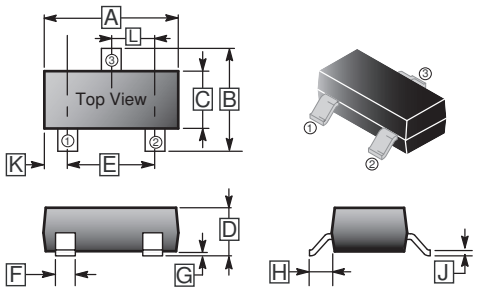
APPLICATION

- Gate Driving MOSFETs and IGBTs
- DC-DC Converters
- Charging Circuit
- Power Switches

MARKING

720

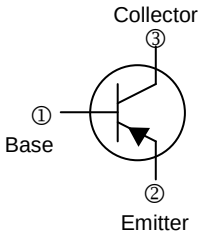
SOT-23



REF.	Millimeter		REF.	Millimeter	
	Min.	Max.		Min.	Max.
A	2.70	3.10	G	0	0.18
B	2.10	2.95	H	0.55 REF.	
C	1.20	1.7	J	0.08	0.20
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



MAXIMUM RATINGS (T_A=25℃ unless otherwise specified)

Parameter	Symbol	Ratings	Unit
Collector - Base Voltage	V_{CBO}	-40	V
Collector - Emitter Voltage	V_{CEO}	-40	V
Emitter - Base Voltage	V_{EBO}	-5	V
Base Current	I_B	-0.5	A
Collector Current - Continuous [1]	I_C	-1.5	A
Peak Pulse Current	I_{CM}	-4	A
Collector Power Dissipation	P_C	350	mW
Thermal Resistance from Junction to Ambient	$R_{\theta JA}$	357	℃ / W
Junction and Storage Temperature	T_J, T_{STG}	150, -55~150	℃

Note:
1. Measured under pulse conditions . Pulse width =300μs. Duty cycle≤2%.

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

Parameter	Symbol	Min.	Typ.	Max.	Unit	Test Conditions
Collector-Base Breakdown Voltage	$V_{(BR)CBO}$	-40	-	-	V	I_C= -100μA, I_E=0
Collector-Emitter Breakdown Voltage[1]	$V_{(BR)CEO}$	-40	-	-	V	I_C= -10mA, I_B=0
Emitter-Base Breakdown Voltage	$V_{(BR)EBO}$	-5	-	-	V	I_E= -100μA, I_C=0
Collector Cut-Off Current	I_{CBO}	-	-	-0.1	μA	V_{CB}= -35V, I_E=0
Collector Cut-Off Current	I_{CES}	-	-	-0.1	μA	V_{CE}= -35V, V_{BE}=0
Emitter Cut-Off Current	I_{EBO}	-	-	-0.1	μA	V_{EB}= -4V, I_C=0
DC Current Gain [1]	h_{FE}	300	-	-		V_{CE}= -2V, I_C= -10mA
		300	-	-		V_{CE}= -2V, I_C= -100mA
		180	-	-		V_{CE}= -2V, I_C= -1A
		60	-	-		V_{CE}= -2V, I_C= -1.5A
		12	-	-		V_{CE}= -2V, I_C= -3A
Collector-Emitter Saturation Voltage[1]	$V_{CE(sat)}$	-	-	-40	mV	I_C= -100mA, I_B = -10mA
		-	-	-220		I_C= -1A, I_B = -50mA
		-	-	-330		I_C= -1.5A, I_B = -100mA
Base-Emitter Saturation Voltage[1]	$V_{BE(sat)}$	-	-	-1	V	I_C= -1.5A, I_B= -75mA
Base-emitter voltage[1]	$V_{BE(on)}$	-	-	-1		V_{CE}= -2V, I_C= -1.5A
Transition frequency	f_T	150	-	-	MHz	V_{CE}= -10V,I_C= -50mA, f=100MHz
Collector output capacitance	C_{ob}	-	-	25	pF	V_{CB}= -10V, f=1MHz
Turn-on Time	$t_{(on)}$	-	40	-	nS	V_{CC}= -15V,I_C= -0.75A, I_{B1}= I_{B2}= -15mA
Turn-off Time	$t_{(off)}$	-	435	-		

Note:
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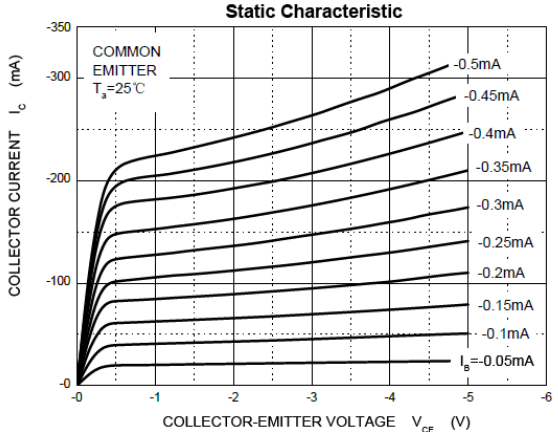
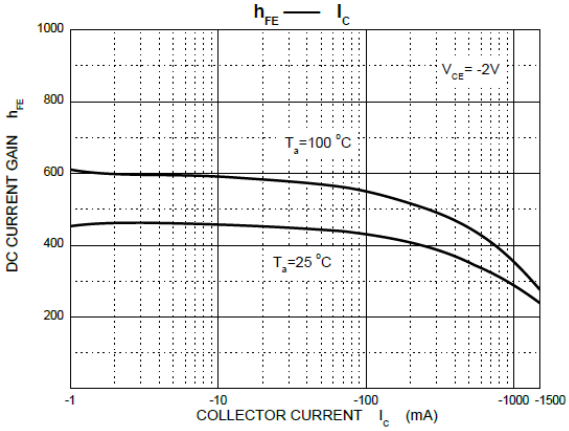
TYPICAL CHARACTERISTICS CURVES

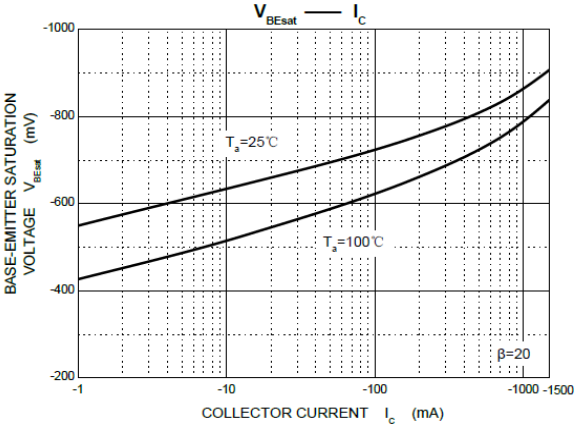
Static Characteristic



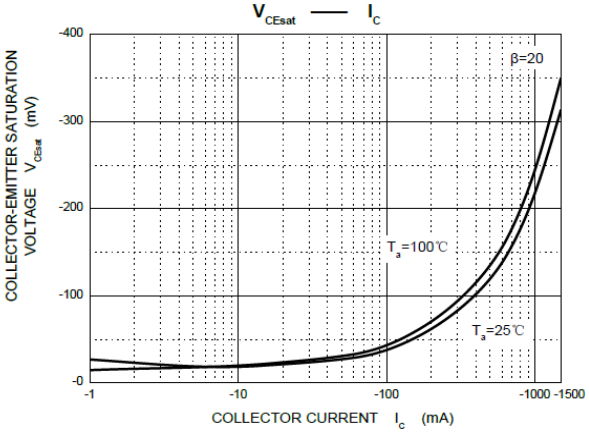
h_{FE} — I_C



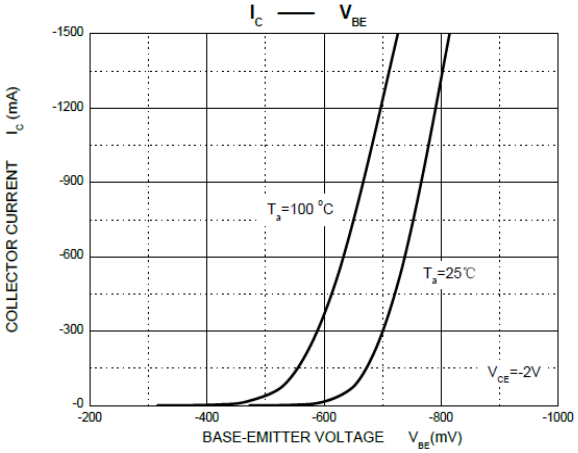
V_{BEsat} — I_C



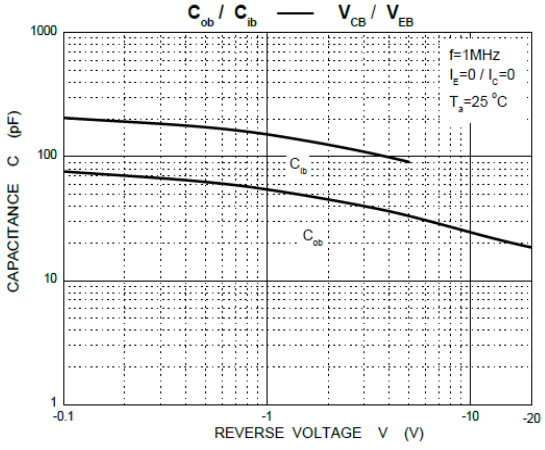
V_{CEsat} — I_C



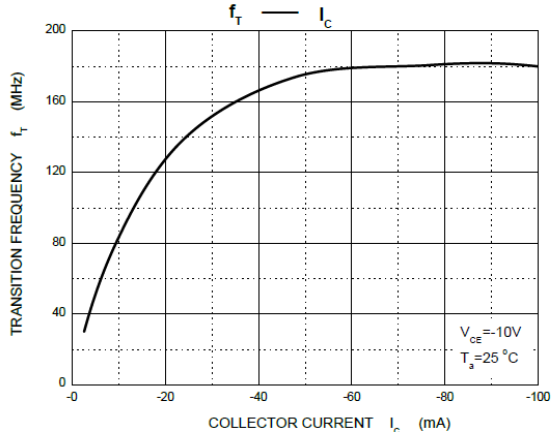
I_C — V_{BE}



C_{ob} / C_{ib} — V_{CB} / V_{EB}



f_T — I_C



P_C — T_a