Elektronische Bauelemente

MMBT2907ACR-C

-600mA, -60V

PNP Plastic Encapsulated Transistor

RoHS Compliant Product

A suffix of "-C" specifies halogen and lead free

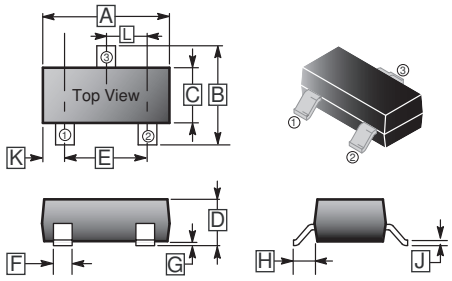
FEATURES

- Epitaxial Planar die construction
- Complementary NPN Type Available MMBT2222ACR-C
- Ideal for Medium Power Amplification and Switching
- Qualified to AEC-Q101 Standards for High Reliability

APPLICATION

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

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			

MARKING

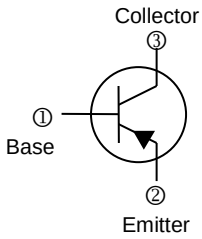
2F

PACKAGE INFORMATION

Package	MPQ	Leader Size
SOT-23	3K	7 inch

ORDER INFORMATION

Part Number	Type
MMBT2907ACR-C	Lead (Pb)-free and Halogen-free



ESD RATING

Parameter	Symbol	Ratings	Unit
Electrostatic Discharge - Human Body Model	V_{ESD}	4000	V
Electrostatic Discharge - Machine Model		400	V

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

Parameter	Symbol	Ratings	Unit
Collector-Base Voltage	V_{CBO}	-60	V
Collector-Emitter Voltage	V_{CEO}	-60	V
Emitter-Base Voltage	V_{EBO}	-5	V
Collector Current	I_C	-600	mA
Base Current	I_B	-0.5	A
Power Dissipation	P_D	300	mW
Thermal Resistance from Junction-Ambient	$R_{\theta JA}$	417	℃/W
Thermal Resistance from Junction-Case	$R_{\theta JC}$	250	℃/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		$V_{(BR)CBO}$	-60	-	-	V	I_C= -10μA, I_E=0
Collector-Emitter Breakdown Voltage		$V_{(BR)CEO}$	-60	-	-	V	I_C= -10mA, I_B=0
Emitter-Base Breakdown Voltage		$V_{(BR)EBO}$	-5	-	-	V	I_E= -10μA, I_C=0
Collector Cut-off Current	T_A=25℃	I_{CBO}	-	-	-10	nA	V_{CB}= -50V, I_E=0
	T_A=125℃		-	-	-10	uA	V_{CB}= -50V, I_E=0
Collector Cut-off Current		I_{CEX}	-	-	-50	nA	V_{CE}= -30V, $V_{BE(OFF)}$= -0.5V
DC Current Gain		h_{FE}	75	-	-		V_{CE}= -10V, I_C= -100uA
			100	-	-		V_{CE}= -10V, I_C= -1mA
			100	-	-		V_{CE}= -10V, I_C= -10mA
			100	-	300		V_{CE}= -10V, I_C= -150mA
			50	-	-		V_{CE}= -10V, I_C= -500mA
Collector-Emitter Saturation Voltage		$V_{CE(sat)}$	-	-	-0.4	mV	I_C= -150mA, I_B= -15mA
			-	-	-1.6		I_C= -500mA, I_B= -50mA
Base-Emitter Saturation Voltage		$V_{BE(sat)}$	-	-	-1.3	V	I_C= -150mA, I_B= -15mA
			-	-	-2.6		I_C= -500mA, I_B= -50mA
Transition Frequency		f_T	-	200	-	MHz	V_{CE}= -20V, I_C= -50mA, f=100MHz
Output Capacitance		C_{obo}	-	8	-	pF	V_{CB}= -10V, f=100kHz, I_E=0
Input Capacitance		C_{ibo}	-	30	-		V_{EB}= -2V, f=100kHz,I_C=0
Delay Time		T_d	-	10	-	nS	V_{CE}= -30V, I_C= -150mA, I_{B1}= -15mA
Rise Time		T_r	-	40	-		
Storage Time		T_s	-	80	-		V_{CE}= -6V, I_C= -150mA I_{B1}= -I_{B2}= -15mA
Fall Time		T_f	-	30	-		

TYPICAL CHARACTERISTICS

Fig. 1, Max Power Dissipation vs Ambient Temperature

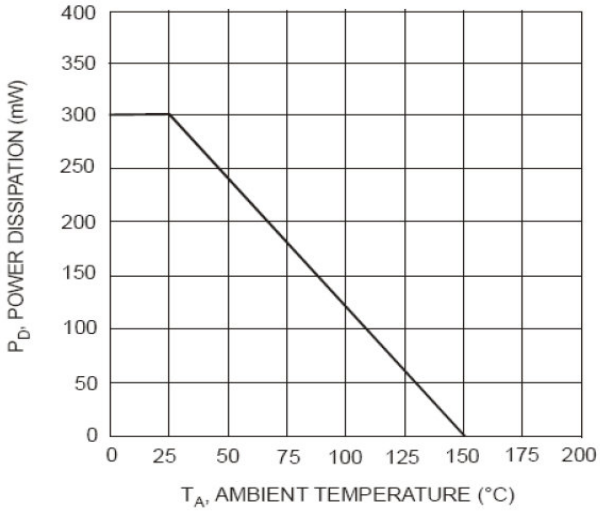


Fig. 2, Typical Capacitance Characteristics

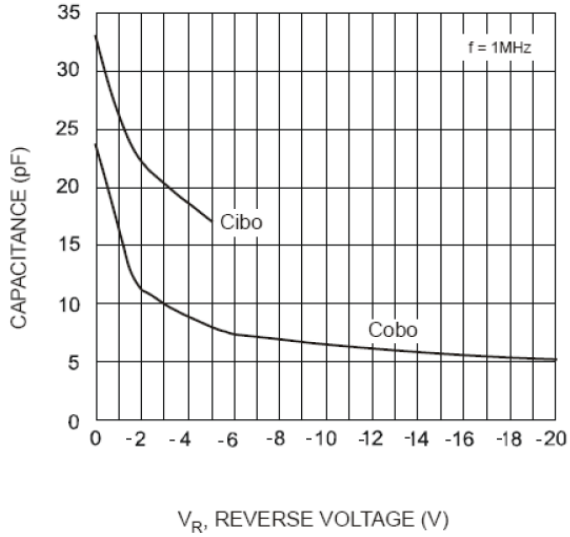


Fig. 3, Typical Collector Saturation Region

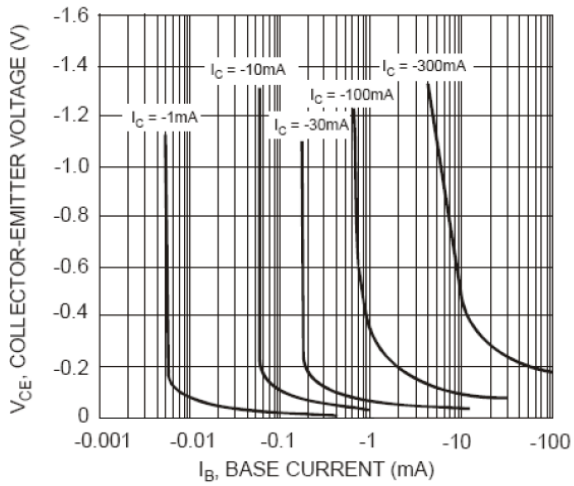


Fig. 4, Collector-Emitter Saturation Voltage vs. Collector Current

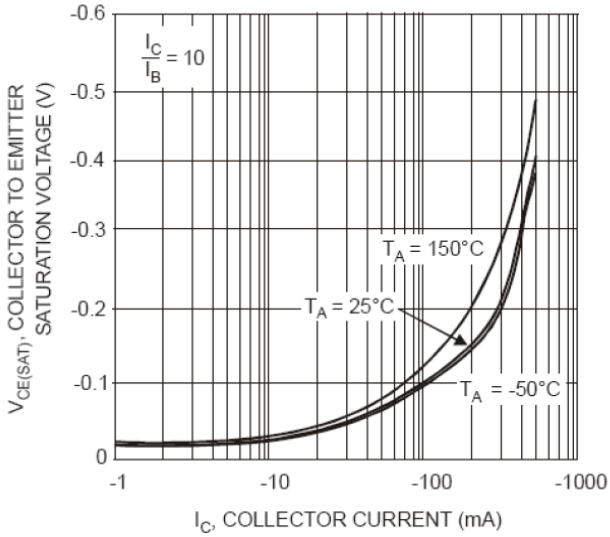


Fig. 5, DC Current Gain vs Collector Current

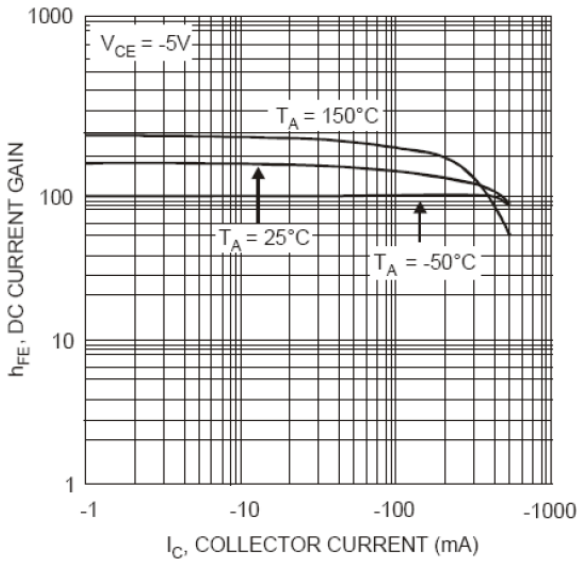
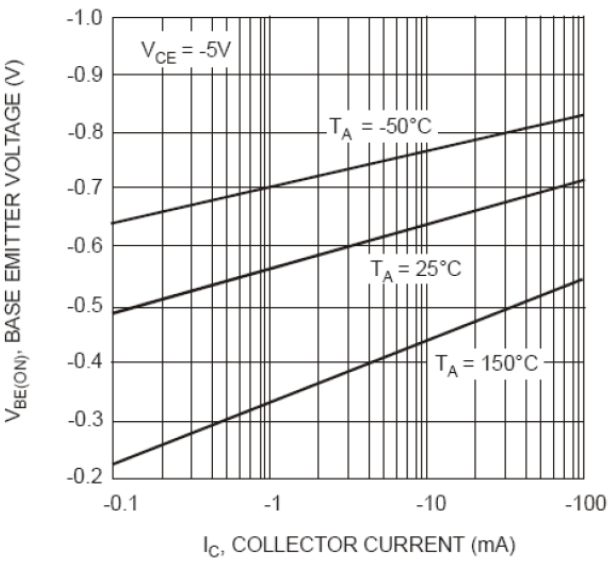


Fig. 6, Base-Emitter Voltage vs. Collector Current



TYPICAL CHARACTERISTICS

Fig. 7, Gain Bandwidth Product vs. Collector Current