Elektronische Bauelemente

MMBT3906W-C

-0.2A, -40V

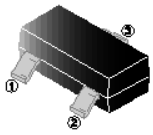
PNP Silicon General Purpose Transistor

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

FEATURES

- Epitaxial Planar Die Construction
- Complementary to MMDT3904W-C
- Ideal for Medium Power Amplification and Switching

SOT-323

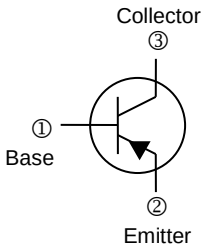


MARKING

2A
K5N

PACKAGE INFORMATION

Package	MPQ	Leader Size
SOT-323	3K	7 inch



ORDER INFORMATION

Part Number	Type
MMBT3906W-C	Lead (Pb)-free and Halogen-free

ABSOLUTE MAXIMUM RATINGS

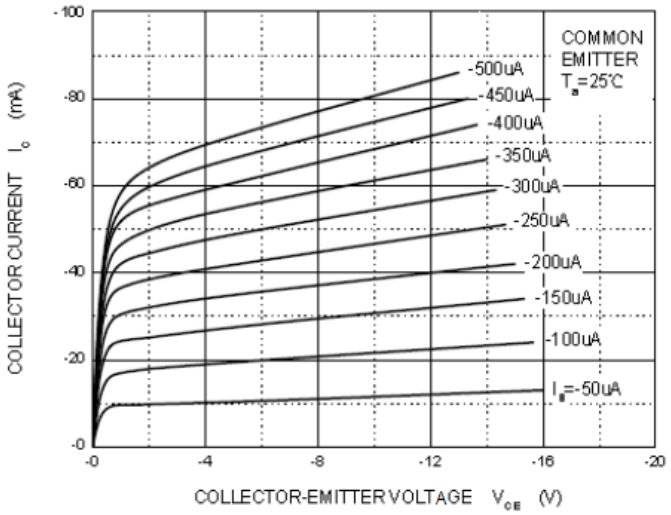
Parameter	Symbol	Ratings	Unit
Collector-Base Voltage	V_{CBO}	-40	V
Collector-Emitter Voltage	V_{CEO}	-40	
Emitter-Base Voltage	V_{EBO}	-5	
Collector Current	I_C	-200	mA
Collector Power Dissipation	P_C	200	mW
Thermal Resistance, Junction-Ambient	$R_{\theta JA}$	625	°C/W
Junction, Storage Temperature Range	T_J, T_{STG}	150, -55~150	°C

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

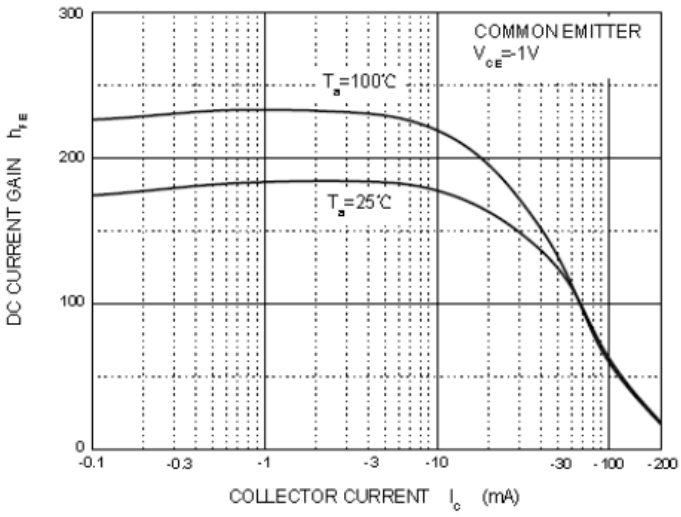
Parameter	Symbol	Min.	Typ.	Max.	Unit	Test Conditions
Collector-Base Breakdown Voltage	$V_{(BR)CBO}$	-40	-	-	V	I_C= -10μA, I_E=0
Collector-Emitter Breakdown Voltage	$V_{(BR)CEO}$	-40	-	-		I_C= -1mA, I_B=0
Emitter-Base Breakdown Voltage	$V_{(BR)EBO}$	-5	-	-		I_E = -10μA, I_C=0
Collector Cut-off Current	I_{CBO}	-	-	-50	nA	V_{CE}= -30V, $V_{EB(off)}$= -3V
Collector Cut-off Current	I_{CEX}	-	-	-50		V_{CE}= -30V, $I_{EB(off)}$= -3V
DC Current Gain	h_{FE}	60	-	-		I_C= -0.1mA, V_{CE}= -1V
		80	-	-		I_C= -1mA, V_{CE}= -1V
		100	-	300		I_C= -10mA, V_{CE}= -1V
		60	-	-		I_C= -50mA, V_{CE}= -1V
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$	-	-	-0.2	V	I_C= -10mA, I_B= -1mA
		-	-	-0.3		I_C= -50mA, I_B= -5mA
Base-Emitter Saturation Voltage	$V_{BE(sat)}$	-	-	-0.85	V	I_C= -10mA, I_B= -1mA
		-	-	-0.95		I_C= -50mA, I_B= -5mA
Transition Frequency	f_T	-	250	-	MHz	I_C= -10mA, V_{CE}= -20V, f=100MHz
Collector Output Capacitance	C_{obo}	-	4.5	-	pF	V_{CB}= -5V, I_E=0, f=1MHz
Collector Input Capacitance	C_{ibo}	-	10	-		V_{EB}= -0.5V, I_C=0, f=1MHz
Delay Time	t_d	-	35	-	nS	V_{CC}= -3V, V_{BE}= 0.5V, I_C= -10mA, I_{B1}= -1mA
Rise Time	t_r	-	35	-		
Storage Time	t_s	-	225	-	nS	V_{CC}= -3V, I_C= -10mA, I_{B1}=I_{B2}= -1mA
Fall Time	t_f	-	75	-		

TYPICAL CHARACTERISTICS

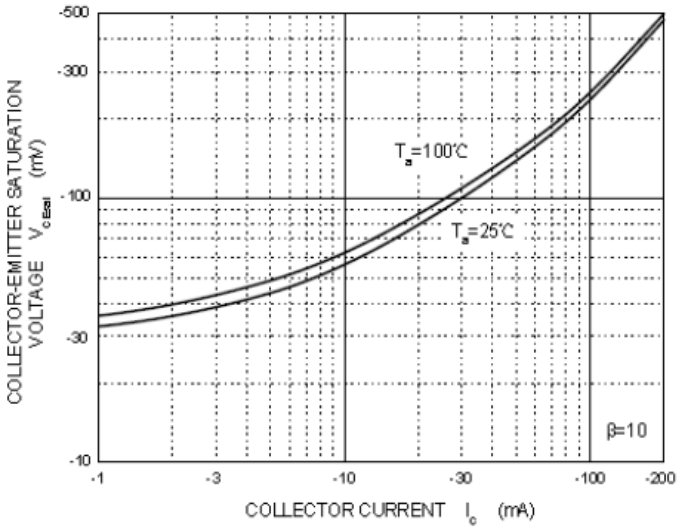
Static Characteristic



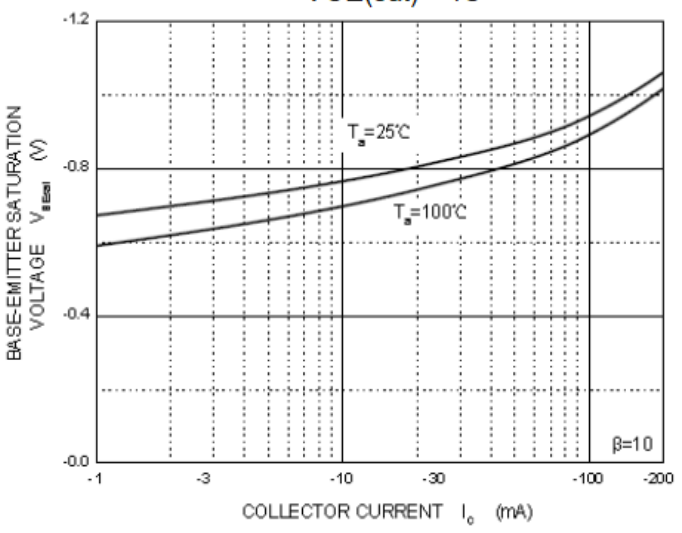
hFE – IC



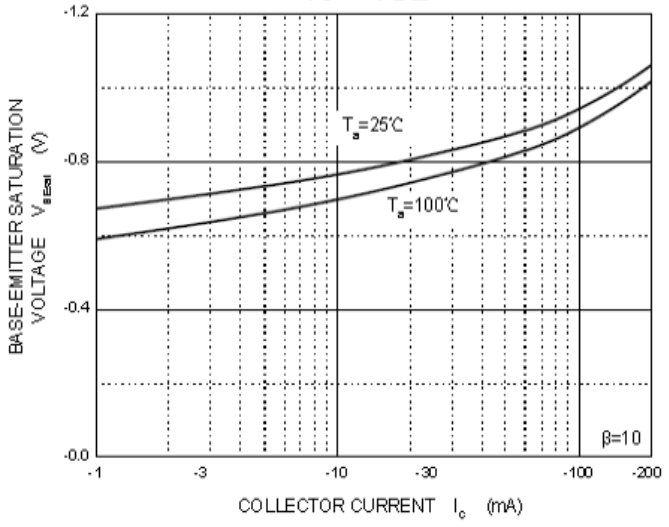
VBE(sat) – IC



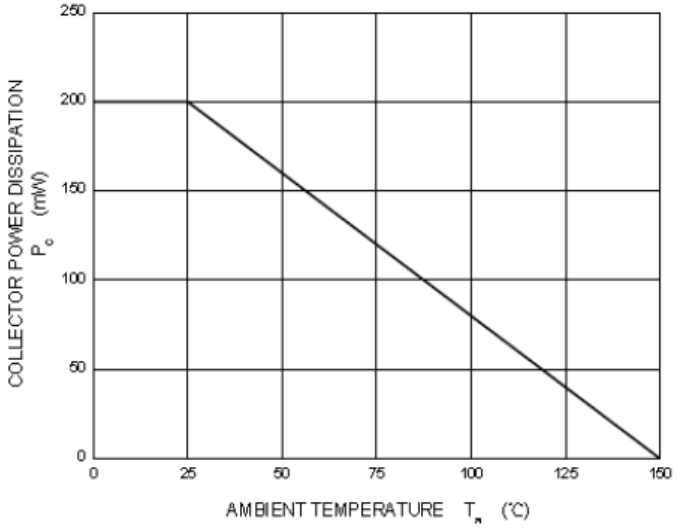
VCE(sat) – IC



IC – VBE

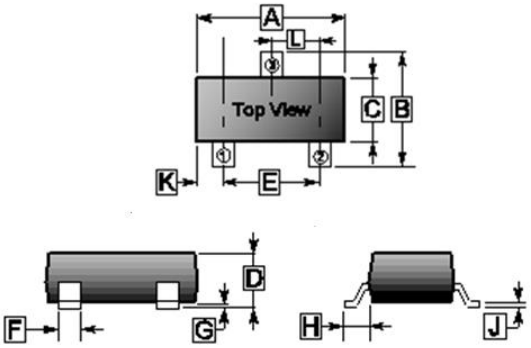


PC – TA



PACKAGE OUTLINE DIMENSIONS

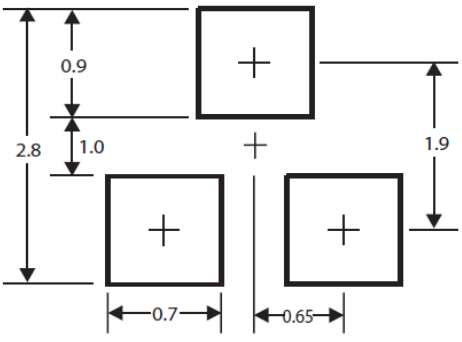
SOT-323



REF.	Millimeter	
	Min.	Max.
A	1.80	2.20
B	1.80	2.55
C	1.10	1.40
D	0.80	1.15
E	1.20	2.00
F	0.15	0.50
G	0.10 REF.	
H	0.525 REF.	
J	0.05	0.25
K	0.35 REF.	
L	0.65 TYP.	

MOUNTING PAD LAYOUT

SOT-323



*Dimensions in millimeters