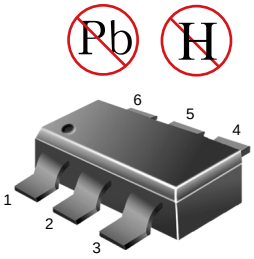
SEMICONDUCTOR

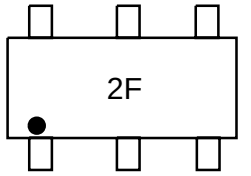
DATA SHEET

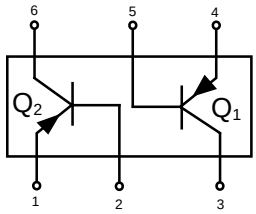
MMBT2907ADW

TRANSISTOR (PNP)



SOT–363/SC–88
CASE 419B STYLE 1





FEATURE

Complementary NPN Type available MMBT2222ADW

MAXIMUM RATINGS (T_A=25℃ unless otherwise noted)

Symbol	Parameter	Value	Units
V_{CBO}	Collector-Base Voltage	-60	V
V_{CEO}	Collector-Emitter Voltage	-60	V
V_{EBO}	Emitter-Base Voltage	-5	V
I_C	Collector Current -Continuous	-600	mA
P_C	Collector Power Dissipation	200	mW
T_J	Junction Temperature	150	℃
T_{stg}	Storage Temperature	-55-150	℃

MARKING: 2F

ELECTRICAL CHARACTERISTICS (Tamb=25℃ unless otherwise specified)

Parameter	Symbol	Test conditions	MIN	MAX	UNIT
Collector-base breakdown voltage	$V_{(BR)CBO}$	I_C= -10μA, I_E=0	-60		V
Collector-emitter breakdown voltage	$V_{(BR)CEO}$	I_C= -10mA, I_B=0	-60		V
Emitter-base breakdown voltage	$V_{(BR)EBO}$	I_E=-10μA, I_C=0	-5		V
Collector cut-off current	I_{CBO}	V_{CB}=-50V, I_E=0		-10	nA
Collector cut-off current	I_{CEX}	V_{CE}=-30V,$V_{EB(Off)}$=-0.5V		-50	nA
Emitter cut-off current	I_{EBO}	V_{EB}=-5V, I_C=0		-10	nA
DC current gain	$h_{FE(1)}$	V_{CE}=-10V, I_C= -0.1mA	75		
	$h_{FE(2)}$	V_{CE}=-10V, I_C= -1mA	100		
	$h_{FE(3)}$	V_{CE}=-10V, I_C=-10mA	100		
	$h_{FE(4)}$	V_{CE}=-10V, I_C= -150mA	100	300	
	$h_{FE(5)}$	V_{CE}=-10V, I_C=-500mA	50		
Collector-emitter saturation voltage	$V_{CE(sat)1}$	I_C=-150mA, I_B=-15mA		-0.4	V
	$V_{CE(sat)2}$	I_C=-500mA, I_B=- 50mA		-1.6	V
Base-emitter saturation voltage	$V_{BE(sat)1}$	I_C=-150mA, I_B=-15mA		-1.3	V
	$V_{BE(sat)2}$	I_C=-500mA, I_B= -50mA		-2.6	V
Transition frequency	f_T	V_{CE}=-20V, I_C= -50mA,f=100MHz	200		MHz
Output Capacitance	C_{ob}	V_{CB}=-10V, I_E= 0,f=1MHz		8	pF
Input Capacitance	C_{ib}	V_{EB}=-2V, I_C= 0,f=1MHz		30	pF
Delay time	t_d	V_{CC}=-30V,I_C=-150mA, I_{B1}=-15mA		10	nS
Rise time	t_r			40	nS
Storage time	t_S	V_{CC}=-6V, I_C=-150mA,		225	nS
Fall time	t_f	I_{B1}= I_{B2}= -15mA		60	nS

DEVICE CHARACTERISTICS

MMBT2907ADW

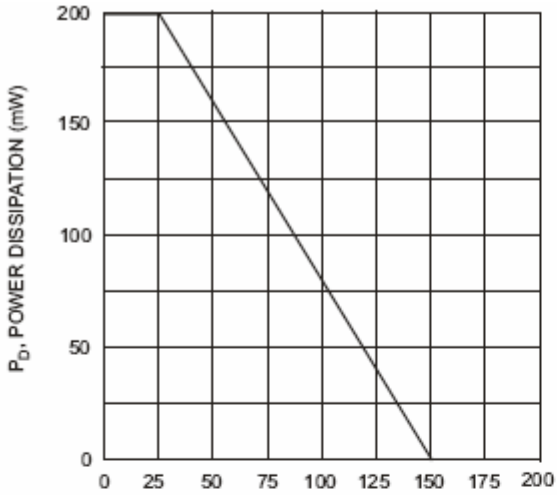


Fig. 1, Max Power Dissipation vs Ambient Temperature

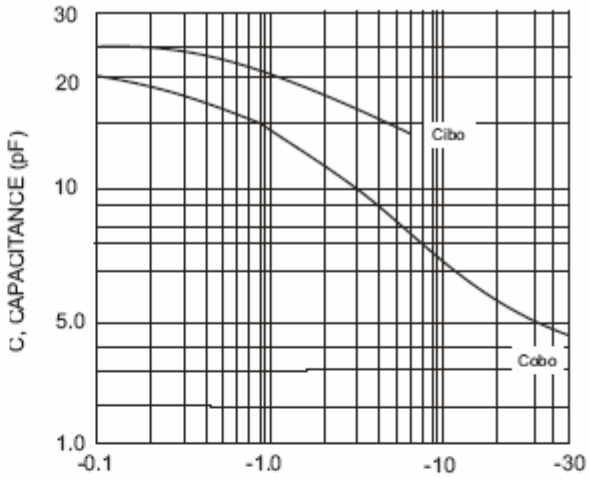


Fig. 2 Typical Capacitance

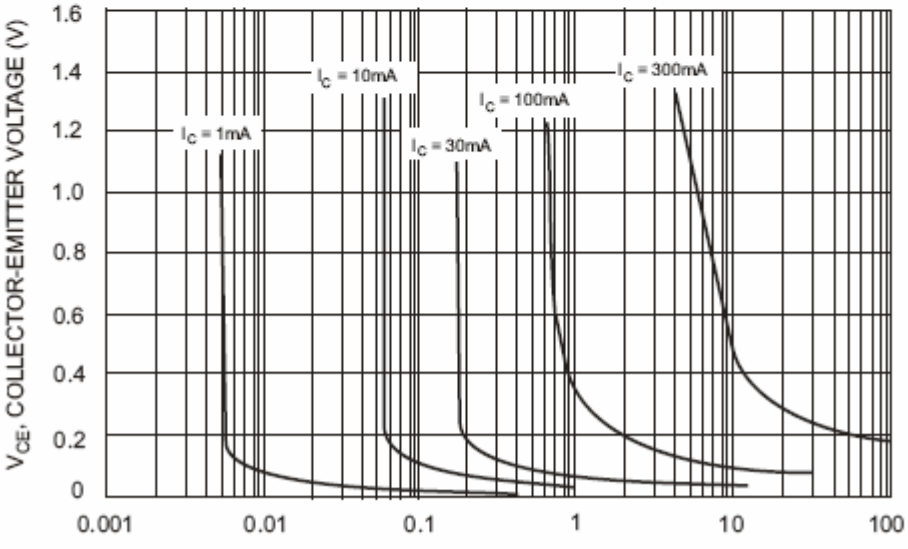


Fig. 3 Typical Collector Saturation Region

DEVICE CHARACTERISTICS

MMBT2907ADW

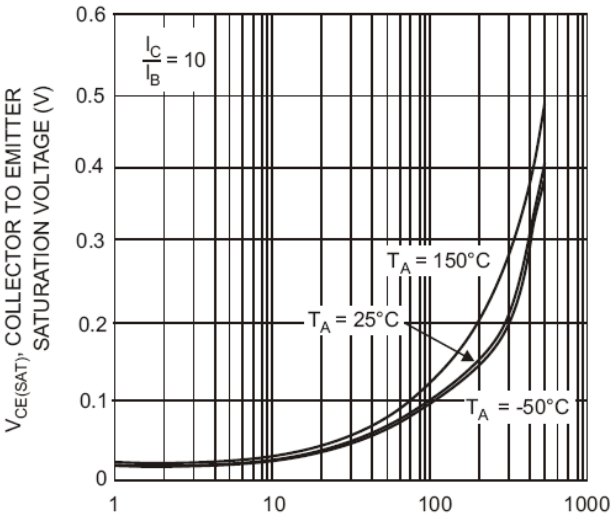


Fig. 4, Collector Emitter Saturation Voltage vs. Collector Current

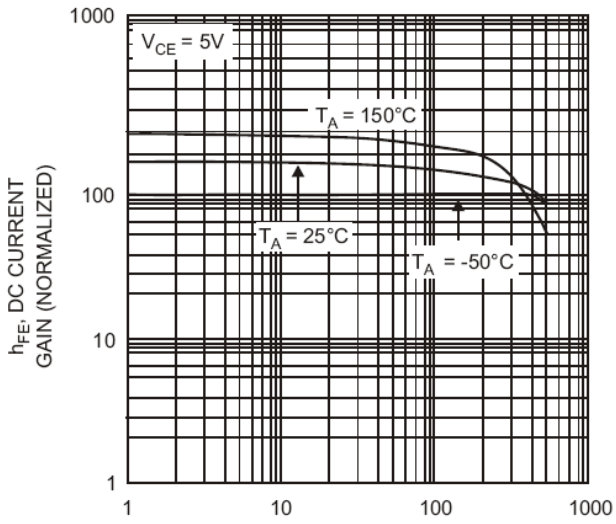


Fig. 5, DC Current Gain vs Collector Current

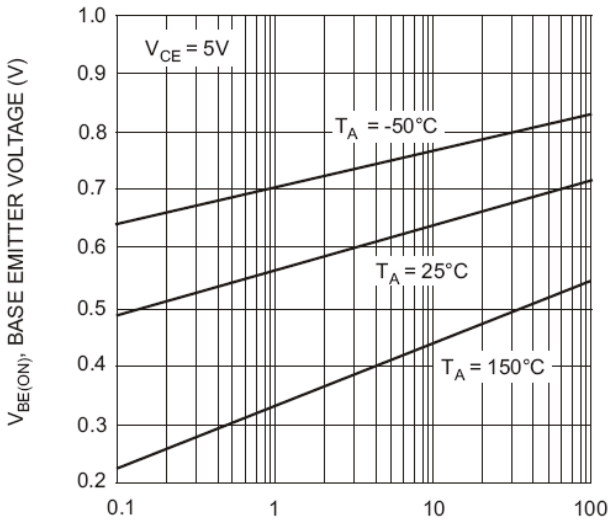


Fig. 6, Base Emitter Voltage vs. Collector Current

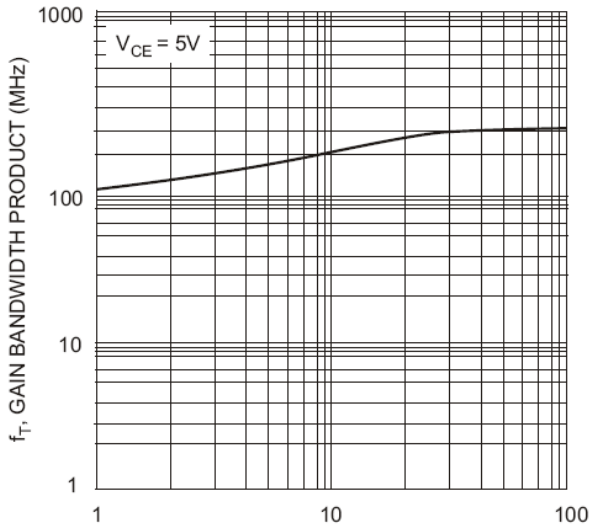
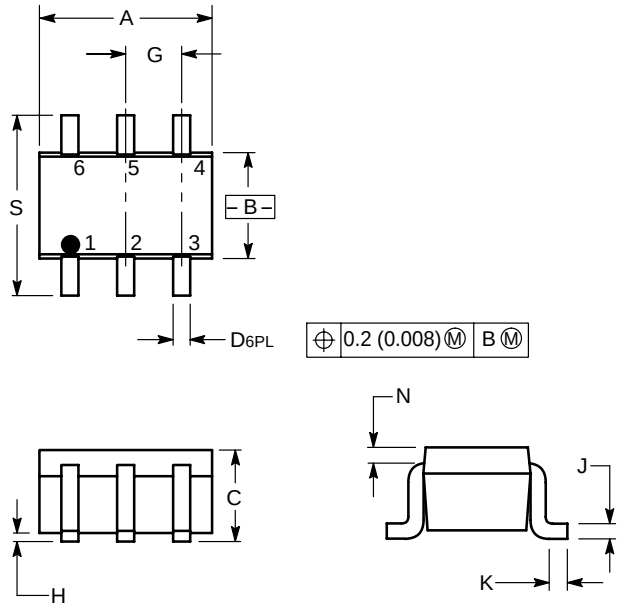


Fig. 7, Gain Bandwidth Product vs. Collector Current

PACKAGE OUTLINE & DIMENSIONS

MMBT2907ADW

SC−88/SOT−363



NOTES:

1. DIMENSIONING AND TOLERANCING PER ANSI Y14.5M, 1982.
2. CONTROLLING DIMENSION: INCH.

DIM	INCHES		MILLIMETERS	
	MIN	MAX	MIN	MAX
A	0.071	0.087	1.80	2.20
B	0.045	0.053	1.15	1.35
C	0.031	0.043	0.80	1.10
D	0.004	0.012	0.10	0.30
G	0.026 BSC		0.65 BSC	
H	---	0.004	---	0.10
J	0.004	0.010	0.10	0.25
K	0.004	0.012	0.10	0.30
N	0.008 REF		0.20 REF	
S	0.079	0.087	2.00	2.20

PIN 1. EMITTER 1
2. BASE 1
3. COLLECTOR 2
4. EMITTER 2
5. BASE 2
6. COLLECTOR 1