

SOT-23 Plastic-Encapsulate Transistors

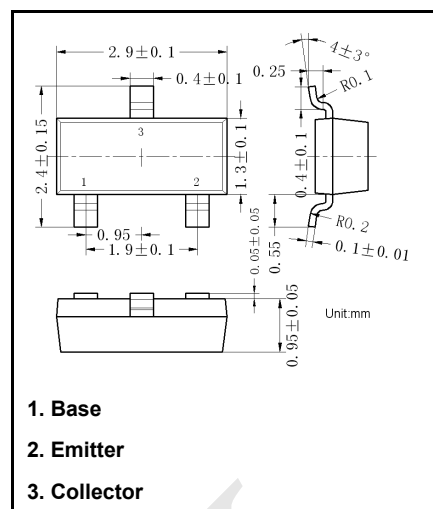
MMBT2907A

PNP Transistors

Features

- Epitaxial planar die construction
- Complementary NPN Type available (MMBT2222A)

Marking: 2F



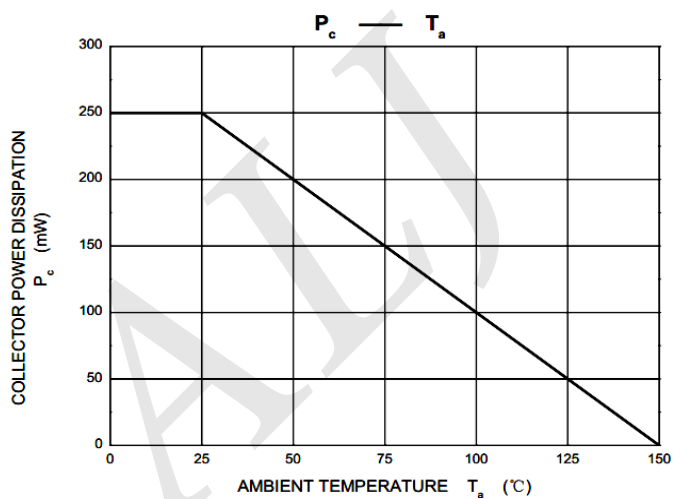
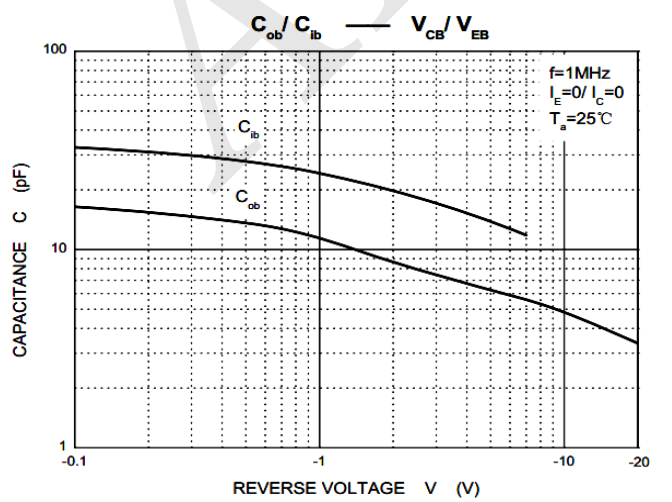
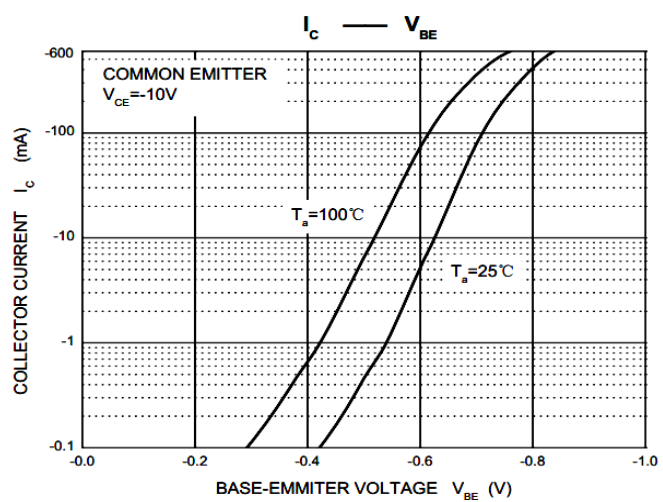
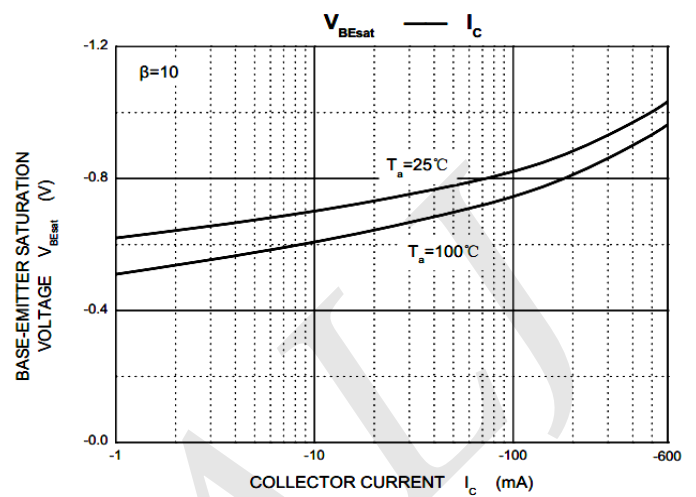
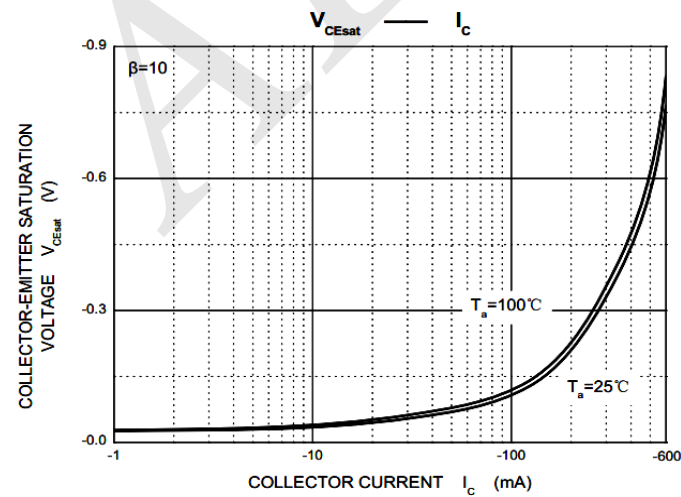
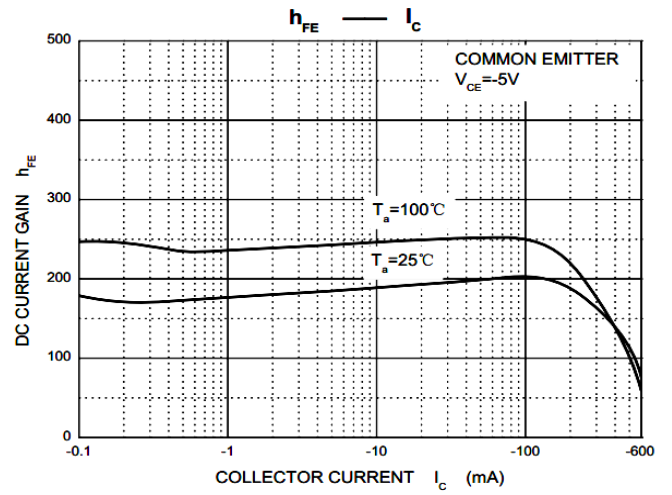
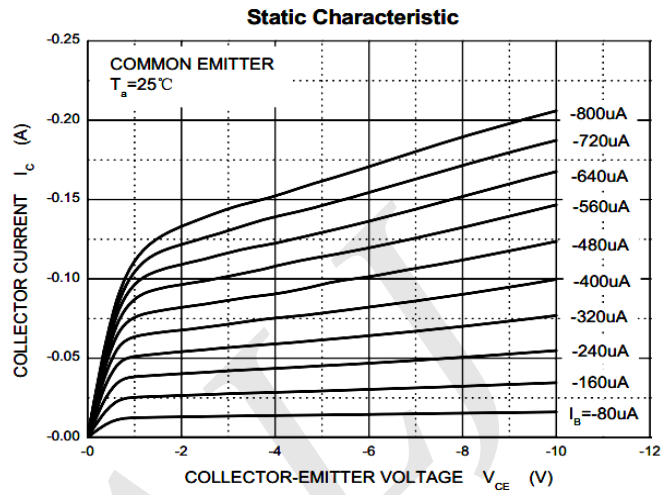
Maximum Ratings ($T_a=25^\circ\text{C}$ unless otherwise noted)

Symbol	Parameter	Value	Unit
V_{CB0}	Collector Base Voltage	-60	V
V_{CE0}	Collector Emitter Voltage	-40	V
V_{EB0}	Emitter Base Voltage	-5	V
I_c	Collector Current –Continuous	-600	mA
P_D	Total Device Dissipation	250	mW
T_j	Junction Temperature	150	$^\circ\text{C}$
T_{stg}	Storage Temperature	-55 to +150	$^\circ\text{C}$
$R_{\theta JA}$	Thermal Resistance Junction to Ambient	500	$^\circ\text{C/W}$

Electrical Characteristics ($T_a=25^\circ\text{C}$ unless otherwise specified)

Symbol	Parameter	Test Conditions	Min	Typ	Max	Unit
$V_{(BR)CBO}$	Collector-base breakdown voltage	$I_C = -10\mu\text{A}, I_E = 0$	-60			V
$V_{(BR)CEO}$	Collector-emitter breakdown voltage	$I_C = -10\text{mA}, I_B = 0$	-40			V
$V_{(BR)EBO}$	Emitter-base breakdown voltage	$I_E = -10\mu\text{A}, I_C = 0$	-5			V
I_{CBO}	Collector cut-off current	$V_{CB} = -50\text{V}, I_E = 0$			-20	nA
I_{CEX}	Collector cut-off current	$V_{CE} = -30\text{V}, V_{BE(off)} = -0.5\text{V}$			-50	nA
I_{EBO}	Emitter cut-off current	$V_{EB} = -3\text{V}, I_C = 0$			-10	nA
$h_{FE(1)}$	DC current gain	$V_{CE} = -5\text{V}, I_C = -1\text{mA}$	100			
$h_{FE(2)}$		$V_{CE} = -10\text{V}, I_C = -0.1\text{mA}$	52			
$h_{FE(3)}$		$V_{CE} = -10\text{V}, I_C = -1\text{mA}$	100			
$h_{FE(4)}$		$V_{CE} = -10\text{V}, I_C = -10\text{mA}$	100			
$h_{FE(5)}$		$V_{CE} = -10\text{V}, I_C = -150\text{mA}$	100		300	
$h_{FE(6)}$		$V_{CE} = -10\text{V}, I_C = -500\text{mA}$	32			
$V_{CE(sat)}$	Collector-emitter saturation voltage	$I_C = -150\text{mA}, I_B = -15\text{mA}$			-0.4	V
		$I_C = -500\text{mA}, I_B = -50\text{mA}$			-1.6	V
$V_{BE(sat)}$	Base-emitter saturation voltage	$I_C = -150\text{mA}, I_B = -15\text{mA}$			-1.3	V
		$I_C = -500\text{mA}, I_B = -50\text{mA}$			-2.6	V
f_T	Transition frequency	$V_{CE} = -20\text{V}, I_C = -50\text{mA}, f = 100\text{MHz}$	200			MHz
t_d	Delay time	$V_{CC} = -30\text{V}, I_C = -150\text{mA}, I_{B1} = -15\text{mA}$			10	ns
t_r	Rise time				25	ns
t_s	Storage time	$V_{CC} = -6\text{V}, I_C = -150\text{mA}, I_{B1} = -I_{B2} = -15\text{mA}$			225	ns
t_f	Fall time				60	ns

Typical Characteristics



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