

FEATURES

As complementary type the PNP transistor MMBT3906 is recommended
Epitaxial planar die construction

MARKING: 1AM

MAXIMUM RATINGS (TA=25℃ unless otherwise noted)

Parameter	Symbol	Value	Unit
Collector-Base Voltage	V_{CBO}	60	V
Collector-Emitter Voltage	V_{CEO}	40	V
Emitter-Base Voltage	V_{EBO}	6	V
Collector Current -Continuous	I_C	200	mA
Collector Power Dissipation	I_C	200	mW
Thermal Resistance Junction to Ambient	$R_{\theta JA}$	625	℃/W
Junction Temperature	T_J	150	℃
Storage Temperature	T_{stg}	-55 to +150	℃

MMBT3904 (NPN)



ELECTRICAL CHARACTERISTICS (Tamb=25℃ unless otherwise specified)

Parameter	Symbol	Test conditions	Min	Max	Unit
Collector-base breakdown voltage	V_{CBO}	$I_C = 10\mu A, I_E = 0$	60		v
Collector-emitter breakdown voltage	V_{CEO}	$I_C = 1mA, I_B = 0$	40		v
Emitter-base breakdown voltage	V_{EBO}	$I_E = 10\mu A, I_C = 0$	6		v
Collector cut-off current	I_{CBO}	$V_{CB} = 60V, I_E = 0$		0.1	uA
Collector cut-off current	I_{CEX}	$V_{CE} = 30V, V_{BE(off)} = 3V$		50	uA
Emitter cut-off current	I_{EBO}	$V_{EB} = 5V, I_C = 0$		0.1	uA
DC current gain	$h_{FE(1)}$	$V_{CE} = 1V, I_C = 10mA$	100	300	
DC current gain	$h_{FE(2)}$	$V_{CE} = 1V, I_C = 100mA$	30		
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C = 50mA, I_B = 5mA$		0.3	v
Base-emitter saturation voltage	$V_{BE(sat)}$	$I_C = 50mA, I_B = 5mA$		0.95	v
Transition frequency	f_T	$V_{CE} = 20V, I_C = 10mA, f = 100MHz$	300		MHz
Delay Time	td	$V_{CC} = 3V, V_{BE} = -0.5V$		35	nS
Rise Time	tr	$I_C = 10mA, I_{B1} = -I_{B2} = 1.0mA$		35	nS
Storage Time	ts	$V_{CC} = 3V, I_C = 10mA,$		200	nS
Fall Time	tf	$I_{B1} = -I_{B2} = 1mA$		50	nS

CLASSIFICATION OF

Rank	O	Y	G
Range	120-200	200-300	300-400

MMBT3904 Typical Characteristics

