



## FEATURES

Epitaxial planar die construction

Complementary PNP Type available(MMBT2907A)

## MMBT2222A(NPN)

MARKING: 1P

MAXIMUM RATINGS (TA=25°C unless otherwise noted)

Parameter	Symbol	Value	Unit
Collector-Base Voltage	$V_{CBO}$	75	V
Collector-Emitter Voltage	$V_{CEO}$	40	V
Emitter-Base Voltage	$V_{EBO}$	6	V
Collector Current -Continuous	$I_C$	0.6	A
Collector Power Dissipation	$P_C$	0.25	W
Junction Temperature	$T_J$	150	°C
Storage Temperature	$T_{stg}$	-55 to +150	°C



ELECTRICAL CHARACTERISTICS (Tamb=25°C unless otherwise specified)

Parameter	Symbol	Test conditions	Min	Typ	Max	Unit
Collector-base breakdown voltage	$V_{CBO}$	$I_C=10\mu A, I_E=0$	75			V
Collector-emitter breakdown voltage	$V_{CEO}$	$I_C=10mA, I_B=0$	40			V
Emitter-base breakdown voltage	$V_{EBO}$	$I_E=10\mu A, I_C=0$	6			V
Collector cut-off current	$I_{CB}$	$V_{CB}=60V, I_E=0$			0.01	$\mu A$
Collector cut-off current	$I_{CE}$	$V_{CE}=30V, V_{BE(off)}=3V$			0.01	$\mu A$
Emitter cut-off current	$I_{EB}$	$V_{EB}=3V, I_C=0$			0.1	$\mu A$
DC current gain	$h_{FE(1)}$	$V_{CE}=10V, I_C=150mA$	100		300	
	$h_{FE(2)}$	$V_{CE}=10V, I_C=0.1mA$	40			
	$h_{FE(3)}$	$V_{CE}=10V, I_C=500mA$	42			
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C=500mA, I_B=50mA$ $I_C=150mA, I_B=15mA$			1 0.3	V
Base-emitter saturation voltage	$V_{BE(sat)}$	$I_C=500mA, I_B=50mA$ $I_C=150mA, I_B=15mA$			2.0 1.2	V
Transition frequency	$f$	$V_{CE}=20V, I_C=20mA,$ $f=100MHz$	300			MHz
Delay time	$t_d$	$V_{CC}=30V, V_{BE(off)}=-0.5V$			10	nS
Rise time	$t_r$	$I_C=150mA, I_B=15mA$			25	nS
Storage time	$t_S$	$V_{CC}=30V, I_C=150mA$			225	nS
Fall time	$t_f$	$I_B=-I_B=15mA$			60	nS



# MMBT2222A Typical Characteristics

