

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

FEATURES

- Audio Frequency Power Amplifier
- Medium Speed Switching

MARKING

16A

CLASSIFICATION OF $h_{FE(1)}$

RANK	Y	G	L
RANGE	135~270	200~400	300~600

PACKAGE INFORMATION

Package	MPQ	Leader Size
SOT-23	3K	7 inch

ORDER INFORMATION

Part Number	Type
MMBT1616A-□-C	Lead (Pb)-free and Halogen-free

*□=Rank

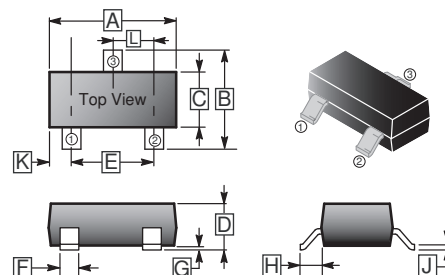
ABSOLUTE MAXIMUM RATINGS ($T_A=25^\circ\text{C}$ unless otherwise noted)

Parameter	Symbol	Ratings	Unit
Collector-Base Voltage	V_{CBO}	120	V
Collector-Emitter Voltage	V_{CEO}	60	V
Emitter-Base Voltage	V_{EBO}	6	V
Collector Current	I_C	1	A
Collector Power Dissipation	P_C	350	mW
Thermal Resistance from Junction-Ambient	$R_{\theta JA}$	357	$^\circ\text{C/W}$
Junction, Storage Temperature	T_J, T_{STG}	-55~150	$^\circ\text{C}$

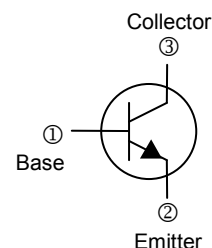
ELECTRICAL CHARACTERISTICS ($T_A=25^\circ\text{C}$ unless otherwise noted)

Parameter	Symbol	Min.	Max.	Unit	Test Conditions
Collector-Base Breakdown Voltage	$V_{(BR)CBO}$	120	-	V	$I_C=10\mu\text{A}, I_E=0$
Collector-Emitter Breakdown Voltage	$V_{(BR)CEO}$	60	-	V	$I_C=2\text{mA}, I_B=0$
Emitter-Base Breakdown Voltage	$V_{(BR)EBO}$	6	-	V	$I_E=10\mu\text{A}, I_C=0$
Collector Cut-off Current	I_{CBO}	-	100	nA	$V_{CB}=60\text{V}, I_E=0$
Emitter Cut-off Current	I_{EBO}	-	100	nA	$V_{EB}=6\text{V}, I_C=0$
DC Current Gain	$h_{FE(1)}$	135	600		$V_{CE}=2\text{V}, I_C=100\text{mA}$
	$h_{FE(2)}$	81	-		$V_{CE}=2\text{V}, I_C=1\text{A}$
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$	-	0.3	V	$I_C=1\text{A}, I_B=50\text{mA}$
	$V_{BE(sat)}$	-	1.2	V	$I_C=1\text{A}, I_B=50\text{mA}$
Base-Emitter Voltage	V_{BE}	0.6	0.7	V	$V_{CE}=2\text{V}, I_C=50\text{mA}$
Transition Frequency	f_T	100	-	MHz	$V_{CE}=2\text{V}, I_C=100\text{mA}, f=100\text{MHz}$
Collector Output Capacitance	C_{ob}	-	19	pF	$V_{CB}=10\text{V}, I_E=0, f=1\text{MHz}$

SOT-23



REF.	Millimeter		REF.	Millimeter	
	Min.	Max.		Min.	Max.
A	2.70	3.10	G	0	0.18
B	2.10	2.95	H	0.55	REF.
C	1.20	1.7	J	0.08	0.20
D	0.89	1.3	K	0.6	REF.
E	1.70	2.3	L	0.95	BSC.
F	0.30	0.50			



TYPICAL CHARACTERISTICS

