MMBT1616

Plastic-Encapsulate Transistors

TRANSISTOR (NPN)

FEATURES

- Audio frequency power amplifier
- Medium speed switching

MARKING:16

SOT－23

1. BASE
2. EMITTER
3. COLLECTOR

MAXIMUM RATINGS (T_a=25℃ unless otherwise noted)

Symbol	Parameter	Value	Unit
V_{CBO}	Collector-Base Voltage	60	V
V_{CEO}	Collector-Emitter Voltage	50	V
V_{EBO}	Emitter-Base Voltage	6	V
I_C	Collector Current	1	A
P_C	Collector Power Dissipation	350	mW
$R_{\Theta JA}$	Thermal Resistance From Junction To Ambient	357	℃/W
T_j	Junction Temperature	150	℃
T_{stg}	Storage Temperature	-55～+150	℃

ELECTRICAL CHARACTERISTICS (T_a=25℃ unless otherwise specified)

Parameter	Symbol	Test conditions	Min	Typ	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=2mA, I_B=0	50			V
Emitter-base breakdown voltage	$V_{(BR)EBO}$	I_E=10μA, I_C=0	6			V
Collector cut-off current	I_{CBO}	V_{CB}= 60V, I_E=0			100	nA
Emitter cut-off current	I_{EBO}	V_{EB}=6V, I_C=0			100	nA
DC current gain	$h_{FE(1)}$	V_{CE}=2V, I_C=100mA	135		600	
	$h_{FE(2)}$	V_{CE}=2V, I_C=1A	81			
Collector-emitter saturation voltage	$V_{CE(sat)}$	I_C=1A, I_B=50mA			0.3	V
Collector-emitter saturation voltage	$V_{BE(sat)}$	I_C=1A, I_B=50mA			1.2	V
Base-emitter voltage	V_{BE}	V_{CE}=2V, I_C=50mA	0.6		0.7	V
Transition frequency	f_T	V_{CE}=2V,I_C=100mA, f=100MHz	100			MHz
Collector output capacitance	C_{ob}	V_{CB}=10V, I_E=0, f=1MHz			19	pF

CLASSIFICATION OF $h_{FE(1)}$

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

Typical Characteristics