MMBTA44(NPN)

FEATURES

High Breakdown Voltage

Complement to MMBTA94

Marking : 3D

1. BASE
2. EMITTER
3. COLLECTO

SOT-23

MAXIMUM RATINGS (TA=25℃ unless otherwise noted)

Parameter	Symbol	Value	Unit
Collector-Base Voltage	V_{CBO}	400	V
DCollector-Emitter Voltage	V_{CEO}	400	V
Emitter-Base Voltage	V_{EBO}	6	V
Collector Current -Continuous	I_C	200	mA
Collector Current -Pulsed	I_{CM}	300	mA
Collector Power Dissipation	P_C	350	mW
Thermal Resistance From Junction To Ambient	$R_{\Theta JA}$	357	℃/W
Junction Temperature	T_J	150	℃
Storage Temperature	Tstg	-55 to +150	℃

ELECTRICAL CHARACTERISTICS (Tamb=25℃ unless otherwise specified)

Parameter	Symbol	Test conditions	Min	Typ	Max	Unit
Collector-base breakdown voltage	V_{CBO}	I_C=100μA, I_E=0	400			V
Collector-emitter breakdown voltage	V_{CEO}	I_C=1mA, I_B=0	400			V
Emitter-base breakdown voltage	V_{EBO}	I_E=10μA, I_C=0	6			V
Collector cut-off current	I_{CBO}	V_{CB}=400V, I_E=0			0.1	μA
Collector cut-off current	I_{CEO}	V_{CE}=400V, I_B=0			5	μA
Emitter cut-off current	I_{EBO}	V_{EB}=4V, I_C=0			0.1	μA
DC current gain	$h_{FE(1)}$	V_{CE}=10V, I_C=1mA	40			
	$h_{FE(2)}$	V_{CE}=10V, I_C=10mA	50		200	
	$h_{FE(3)}$	V_{CE}=10V, I_C=50mA	45			
	$h_{FE(4)}$	V_{CE}=10V, I_C=100mA	40			
Collector-emitter saturation voltage	$V_{CE(sat)1}$	I_C=1mA, I_B=0.1mA			0.4	V
	$V_{CE(sat)2}$	I_C=10mA, I_B=1mA			0.5	V
	$V_{CE(sat)3}$	I_C=50mA, I_B=5mA			0.75	V
Base-emitter saturation voltage	$V_{BE(sat)}$	I_C=10mA, I_B=1mA			0.75	V
Collector output capacitance	Cob	VCB=20V, IE=0, f=1MHz			7	PF
Emitter input capacitance	Cib	VEB=0.5V, IC=0, f=1MHz			130	PF

MMBTA44 Typical Characteristics