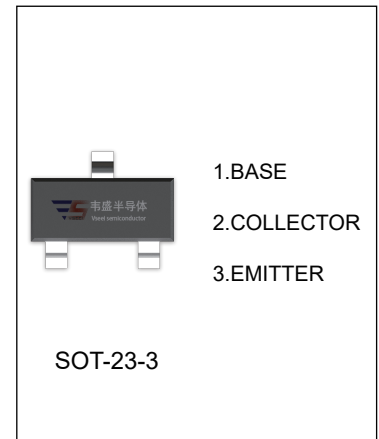


MMBTA93 TRANSISTOR (PNP)

FEATURES

- High Voltage Application
- Telephone Application
- Complementary to MMBTA43



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

Symbol	Parameter	Value	Unit
V _{CBO}	Collector-Base Voltage	-200	V
V _{CEO}	Collector-Emitter Voltage	-200	V
V _{EBO}	Emitter-Base Voltage	-5	V
I _C	Collector Current	-500	mA
P _C	Collector Power Dissipation	350	mW
R _{θJA}	Thermal Resistance From Junction To Ambient	357	°C/W
T _J , T _{stg}	Operation Junction and Storage Temperature Range	-55~+150	°C

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

Parameter	Symbol	Test conditions	Min	Typ	Max	Unit
Collector-base breakdown voltage	V _{(BR)CBO}	I _C =-100μA, I _E =0	-200			V
Collector-emitter breakdown voltage	V _{(BR)CEO}	I _C =-1mA, I _B =0	-200			V
Emitter-base breakdown voltage	V _{(BR)EBO}	I _E =-100μA, I _C =0	-5			V
Collector cut-off current	I _{CBO}	V _{CB} =-200V, I _E =0			-0.25	μA
Collector cut-off current	I _{CEO}	V _{CE} =-200V, I _B =0			-0.25	μA
Emitter cut-off current	I _{EBO}	V _{EB} =-5V, I _C =0			-0.1	μA
DC current gain	h _{FE(1)} *	V _{CE} =-10V, I _C =-10mA	40			
	h _{FE(2)} *	V _{CE} =-10V, I _C =-1mA	25			
	h _{FE(3)} *	V _{CE} =-10V, I _C =-30mA	25			
Collector-emitter saturation voltage	V _{CE(sat)} *	I _C =-20mA, I _B =-2mA			-0.5	V
Base-emitter saturation voltage	V _{BE(sat)} *	I _C =-20mA, I _B =-2mA			-0.9	V
Transition frequency	f _T	V _{CE} =-20V, I _C =-10mA, f=100MHz	50			MHz
Collector output capacitance	C _{ob}	V _{CB} =-20V, I _E =0, f=1MHz			8	pF

*Pulse test: pulse width ≤300μs, duty cycles ≤ 2.0%.