

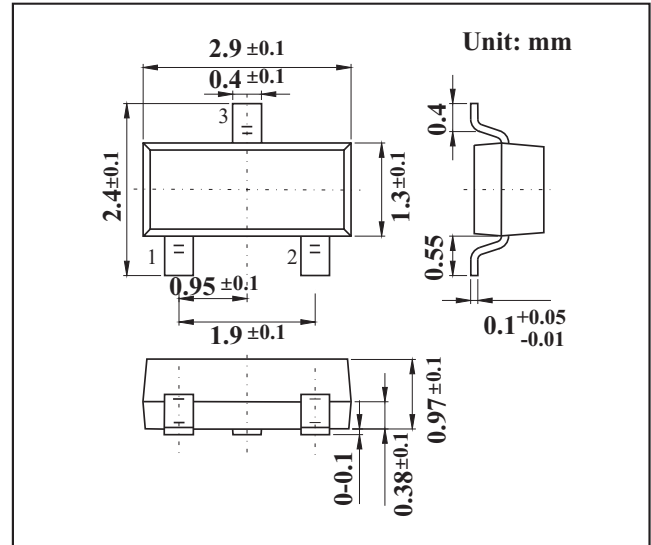
SOT-23 Plastic-Encapsulate Transistors

Features

- PNP Silicon
- High Voltage Transistors

MECHANICAL DATA

- Case style: SOT-23 molded plastic
- Mounting position: any



MAXIMUM RATINGS AND CHARACTERISTICS

@ 25°C Ambient Temperature (unless otherwise noted)

Parameter	Symbol	Rating	Unit
Collector-emitter voltage	V _{CEO}	-200	V
Collector-base voltage	V _{CBO}	-200	V
Emitter-base voltage	V _{EBO}	-5	V
Collector current-continuous	I _C	-500	mA
Total device dissipation FR-5 board *1			
@TA = 25°C	P _D	225	mW
Derate above 25°C		1.8	mW/°C
Thermal resistance, junction-to-ambient	R _{θJA}	556	°C/W
Total device dissipation alumina substrate *2			
@TA = 25°C	P _D	300	mW
derate above 25°C		2.4	mW/°C
Thermal resistance, junction-to-ambient	R _{θJA}	417	°C/W
Junction and storage temperature	T _J , T _{stg}	-55 to +150	°C

PACKAGE INFORMATION

Device	Package	Shipping
MMBTA93	SOT-23	3000/Tape&Reel

* 1. FR-5 = 1.0 X 0.75 X 0.062 in.

* 2. Alumina = 0.4 X 0.3 X 0.024 in. 99.5% alumina.

Parameter	Symbol	Test conditions	Min	Typ	Max	Unit
Collector-emitter breakdown voltage *	V _{(BR)CEO}	I _C = -1.0 mA, I _B = 0	-200			V
Collector-base breakdown voltage	V _{(BR)CBO}	I _C = -100 μA, I _E = 0	-200			V
Emitter-base breakdown voltage	V _{(BR)EBO}	I _E = -100 μA, I _C = 0	-5			V
Collector cutoff current	I _{CBO}	V _{CB} = -160 V, I _E = 0			-0.25	μA
Emitter cutoff current	I _{EBO}	V _{EB} = -3.0 V, I _C = 0			-0.1	μA
DC current gain *	h _{FE}	I _C = -1.0 mA, V _{CE} = -10 V	25			
		I _C = -10 mA, V _{CE} = -10 V	40			
		I _C = -30 mA, V _{CE} = -10 V	25			
Collector-emitter saturation voltage *	V _{CE(sat)}	I _C = -20 mA, I _B = -2.0 mA			-0.5	V
Base-emitter saturation voltage *	V _{BE(sat)}	I _C = -20 mA, I _B = -2.0 mA			-0.9	V
Current-gain - bandwidth product	f _T	I _C = -10 mA, V _{CE} = -20 V, f = 100 MHz	50			MHz
Collector-base capacitance	C _{cb}	V _{CB} = -20 V, I _E = 0, f = 1.0 MHz			8	pF

* Pulse Test: Pulse Width ≤ 300 μs, Duty Cycle ≤ 2.0%.

Marking

Marking	2E
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RATINGS AND CHARACTERISTIC CURVES

