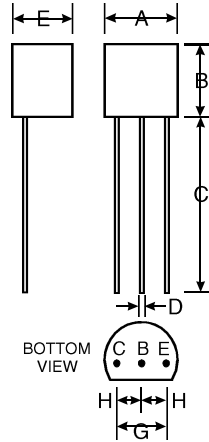


### Features

High Current Gains  
Monolithic Construction  
Available in Both Through-Hole and  
Surface Mount Packages

### Mechanical Data

Case: TO-92, Molded Plastic  
Leads: Solderable per MIL-STD-202,  
Method 208  
Terminal Connections: See Diagram  
Marking: Type Number  
Weight: 0.18 grams (approx.)



TO-92		
Dim	Min	Max
A	4.32	4.83
B	4.32	4.78
C	12.50	15.62
D	0.36	0.56
E	3.15	3.94
G	2.29	2.79
H	1.14	1.40
All Dimensions in mm		

### Maximum Ratings @ $T_A = 25\text{ C}$ unless otherwise specified

Characteristic	Symbol	MPSA13	MPSA14	Unit
Collector - Emitter Voltage	$V_{CES}$	30		V
Collector - Base Voltage	$V_{CBO}$	30		V
Emitter - Base Voltage	$V_{EBO}$	10		V
Collector Current (continuous)	$I_C$	500		mA
Total Power Dissipation (Note 1)	$P_d$	625		mW
Thermal Resistance, Junction to Ambient (Note 1)	$R_{JA}$	200		K/W
Thermal Resistance, Junction to Case	$R_{JC}$	83.3		K/W
Operating and Storage Temperature Range	$T_j, T_{STG}$	-55 to +150		C

### Electrical Characteristics Continued @ $T_A = 25\text{ C}$ unless otherwise specified

Characteristic	Symbol	Min A13	Max A13	Min A14	Max A14	Unit	Test Condition
Collector to Emitter Breakdown Voltage	$V_{(BR)CES}$	30		30		V	$I_C = 100\text{ A}, I_B = 0$
Collector Cutoff Current	$I_{CBO}$		100		100	nA	$V_{CB} = 30V, I_E = 0$
Emitter Cutoff Current	$I_{EBO}$		100		100	nA	$V_{EB} = 10V, I_C = 0$
DC Current Gain	$h_{FE}$	5,000 10,000		10,000 20,000			$I_C = 10\text{mA}, V_{CE} = 5.0V$ $I_C = 100\text{mA}, V_{CE} = 5.0V$
Collector-Emitter Saturation Voltage (Note 2)	$V_{CE(SAT)}$		1.5		1.5	V	$I_C = 100\text{mA}, I_B = 0.1\text{mA}$
Base-Emitter "ON" Voltage (Note 2)	$V_{BE(ON)}$		2.0		2.0	V	$I_C = 100\text{mA}, V_{CE} = 5.0V$
Current Gain Bandwidth Product	$f_T$	125		125		MHz	$I_C = 10\text{mA}, V_{CE} = 5.0V$ $f = 100\text{MHz}$

Notes: 1. Leads maintained at a distance of 2.0 mm from body at specified ambient temperature.  
2. Pulse test: Pulse width 300  $\mu$ s, duty cycle 2%.