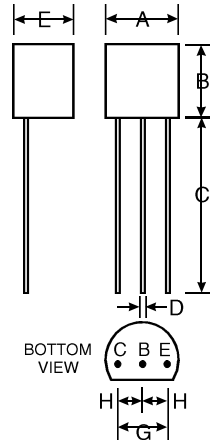


### Features

Epitaxial Planar Die Construction  
High Transition Frequency  
Recommended for Driver and Low-Power  
Output Stages

### Mechanical Data

Case: TO-92, 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	MPSA05	MPSA06	Unit
Collector-Base Voltage	MPSA05 MPSA06 $V_{CBO}$	60	80	V
Collector-Emitter Voltage	MPSA05 MPSA06 $V_{CEO}$	60	80	V
Emitter-Base Voltage	$V_{EBO}$	4.0		V
Collector Current (continuous)	(Note 1) $I_C$	500		mA
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 @ $T_A = 25\text{ C}$ unless otherwise specified

Characteristic	Symbol	Min	Max	Unit	Test Conditions
Collector-Emitter Breakdown Voltage	MPSA05 MPSA06 $V_{(BR)CEO}$	60 80		V	$I_C = 1.0\text{mA}, I_B = 0$
Emitter-Base Breakdown Voltage	$V_{(BR)EBO}$	4.0		V	$I_E = 100\mu\text{A}, I_C = 0$
Collector Cutoff Current	$I_{CEO}$		0.1	A	$V_{CE} = 60\text{V}, I_B = 0$
Collector Cutoff Current	MPSA05 MPSA06 $I_{CBO}$		0.1	A	$V_{CB} = 60\text{V}, I_E = 0$ $V_{CB} = 80\text{V}, I_E = 0$
DC Current Gain	$h_{FE}$	50			$V_{CE} = 1.0\text{V}, I_C = 10\text{mA}$ $V_{CE} = 1.0\text{V}, I_C = 100\text{mA}$
Collector Saturation Voltage (Note 2)	$V_{CE(SAT)}$		0.25	V	$I_C = 100\text{mA}, I_B = 10\text{mA}$
Base-Emitter ON-Voltage	$V_{BE(ON)}$		1.2	V	$V_{CE} = 1.0\text{V}, I_C = 100\text{mA}$
Gain Bandwidth Product	$T$	100		MHz	$V_{CE} = 2.0\text{V}, I_C = 10\text{mA}, f = 100\text{MHz}$

Notes: 1. Valid provided that leads at a distance of 2.0mm from case are kept at specified ambient temperature.  
2. Pulse Test: Pulse width 300 $\mu\text{s}$ , duty cycle 2%.