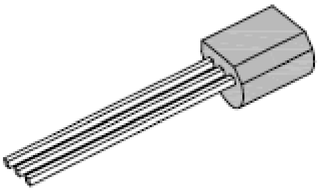
Small Signal General Purpose Transistor (NPN)



TO-92

Features

- NPN Silicon Planar Transistor for Switching and Amplifier Applications
- RoHS Compliance

RoHS Compliant

Mechanical Data

Case:	TO-92, Plastic Package
Terminals:	Solderable per MIL-STD-202G, Method 208
Weight:	0.18 gram

Maximum Ratings *($T_{Ambient}$=25ºC unless noted otherwise)*

Symbol	Description	MPS5172	Unit
V_{CEO}	Collector-Emitter Voltage	25	V
V_{CBO}	Collector-Base Voltage	25	V
V_{EBO}	Emitter-Base Voltage	5.0	V
I_C	Collector Current Continuous	100	mA
P_D	Power Dissipation at T_A=25°C	625	mW
	Derate above 25°C	5.0	mW/° C
P_D	Power Dissipation at T_C=25°C	1.5	W
	Derate above 25°C	12	mW/° C
$R_{\theta JA}$	Thermal Resistance Junction to Ambient Air	200	° C/W
$R_{\theta JC}$	Thermal Resistance Junction to Case	83.3	° C/W
T_J ,T_{STG}	Operation and Storage Junction Temperature Range	-55 to +150	° C

Electrical Characteristics *(T $_{Ambient}$=25ºC unless noted otherwise)*

Off Characteristics

Symbol	Description	Min.	Typ.	Max.	Unit	Conditions
V_{CEO}	Collector-Emitter Voltage	25	-	-	V	I_C=10mA, I_B=0
I_{CES}	Collector Cut–Off Current	-	-	100	nA	V_{CE}=50V, V_{BE}=0
I_{CBO}	Collector Cut–Off Current	-	-	100	nA	V_{CB}=25V, I_E=0
		-	-	10	uA	V_{CB}=25V, I_E=0 Ta=100° C
I_{EBO}	Emitter Cut–Off Current	-	-	100	nA	V_{EB}=5V, I_C=0

On Characteristics

Symbol	Description	Min.	Typ.	Max.	Unit	Conditions
$V_{CE(sat)}$	Collector-Emitter (sat) Voltage	-	-	0.25	V	I_C=10mA, I_B=1.0 mA
$V_{BE(sat)}$	Base Emitter (sat) Voltage	-	0.75	-	V	I_C=10mA, I_B=1.0mA
$V_{BE(on)}$	Base Emitter (on) Voltage	0.5	-	1.2	V	I_C=10mA, I_B=10mA
*h_{FE}	D.C. Current Gain	100	-	500		V_{CE}=10V, I_C=10mA

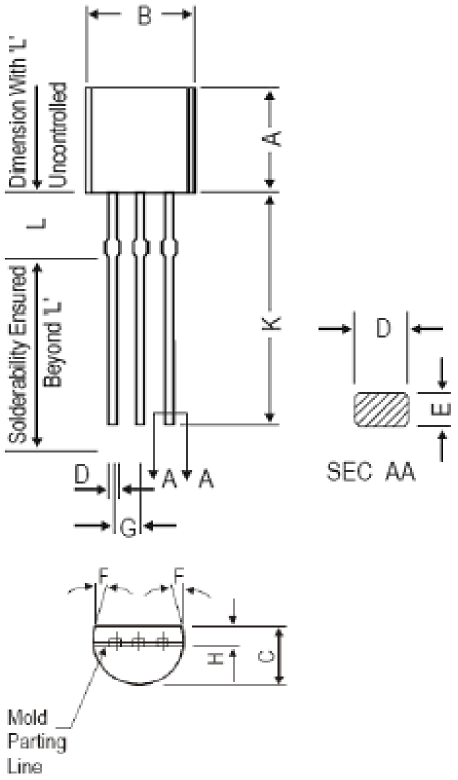
*Pulse Test: Pulse Width≤300μs, Duty Cycle≤2%

Small Signal Characteristics

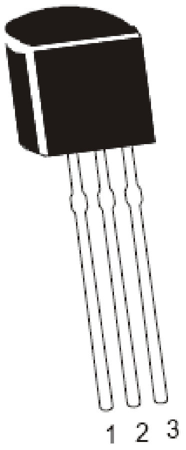
Symbol	Description	Min.	Typ.	Max.	Unit	Conditions
f_T	Current Gain-Bandwidth Product	-	120	-	MHz	V_{CE}=5V, I_C=2.0mA
C_{CB}	Collector Base Capacitance	1.6	-	10	pF	V_{CB}=0V, I_E=0 f=1MHz,
h_{fe}	Small Signal Current Gain	100	-	750		V_{CE}=10V, I_C=10mA f=1KHz,

Dimensions in mm

TO-92



DIM	MIN.	MAX.
A	4.32	5.33
B	4.45	5.20
C	3.18	4.19
D	0.41	0.55
E	0.35	0.50
F	5 DEG	
G	1.14	1.40
H	1.14	1.53
K	12.70	—
L	1.982	2.082



PIN CONFIGURATION
1. EMITTER
2. BASE
3. COLLECTOR

How to contact us:

US HEADQUARTERS
28040 WEST HARRISON PARKAWAY, VALENCIA, CA 91355-4162
Tel: (800) TAITRON (800) 824-8766 (661) 257-6060
Fax: (800) TAITFAX (800) 824-8329 (661) 257-6415
Email: taitron@taitroncomponents.com
Http://www.taitroncomponents.com

TAITRON COMPONENTS MEXICO, S.A .DE C.V.
BOULEVARD CENTRAL 5000 INTERIOR 5 PARQUE INDUSTRIAL ATITALAQUIA, HIDALGO C.P. 42970 MEXICO
Tel: +52-55-5560-1519
Fax: +52-55-5560-2190

TAITRON COMPONENTS INCORPORATED TAIWAN, TAIPEI
5F-2, NO. 77, SEC. 1, HSIN TAI WU ROAD, HSI-CHIH, TAIPEI HSIEN, TAIWAN R.O.C.
Tel: 886-2-2698-8878
Fax: 886-2-2698-8879

TAITRON COMPONETS INCORPORATED, SHANGHAI REPRESENTATIVE OFFICE
METROBANK PLAZA, 1160 WEST YAN'AN ROAD, SUITE 1503, SHANGHAI, 200052, CHINA
Tel: +86-21-5424-9942
Fax: +86-21-5424-9931