

MPSA18
NPN SILICON TRANSISTOR



TO-92 CASE

DESCRIPTION:

The CENTRAL SEMICONDUCTOR MPSA18 is a small signal, low noise NPN silicon transistor designed for general purpose amplifier applications.

MARKING: FULL PART NUMBER

MAXIMUM RATINGS: ($T_A=25^\circ\text{C}$)

Collector-Base Voltage	V_{CB0}	45	V
Collector-Emitter Voltage	V_{CEO}	45	V
Emitter-Base Voltage	V_{EBO}	6.5	V
Continuous Collector Current	I_C	200	mA
Power Dissipation	P_D	625	mW
Operating and Storage Junction Temperature	T_J, T_{stg}	-65 to +150	$^\circ\text{C}$
Thermal Resistance	θ_{JA}	200	$^\circ\text{C/W}$

SYMBOL

V_{CB0}	45
V_{CEO}	45
V_{EBO}	6.5
I_C	200
P_D	625
T_J, T_{stg}	-65 to +150
θ_{JA}	200

UNITS

V
V
V
mA
mW
$^\circ\text{C}$
$^\circ\text{C/W}$

ELECTRICAL CHARACTERISTICS: ($T_A=25^\circ\text{C}$ unless otherwise noted)

SYMBOL	TEST CONDITIONS	MIN	MAX	UNITS
I_{CBO}	$V_{CB}=30\text{V}$		50	nA
BV_{CBO}	$I_C=100\mu\text{A}$	45		V
BV_{CEO}	$I_C=10\text{mA}$	45		V
BV_{EBO}	$I_E=10\mu\text{A}$	6.5		V
$V_{CE(SAT)}$	$I_C=10\text{mA}, I_B=0.5\text{mA}$		0.2	V
$V_{CE(SAT)}$	$I_C=50\text{mA}, I_B=5.0\text{mA}$		0.3	V
$V_{BE(ON)}$	$V_{CE}=5.0\text{V}, I_C=1.0\text{mA}$		0.7	V
h_{FE}	$V_{CE}=5.0\text{V}, I_C=10\mu\text{A}$	400		
h_{FE}	$V_{CE}=5.0\text{V}, I_C=100\mu\text{A}$	500		
h_{FE}	$V_{CE}=5.0\text{V}, I_C=1.0\text{mA}$	500		
h_{FE}	$V_{CE}=5.0\text{V}, I_C=10\text{mA}$	500	1500	
f_T	$V_{CE}=5.0\text{V}, I_C=1.0\text{mA}, f=100\text{MHz}$	100		MHz
C_{ob}	$V_{CB}=5.0\text{V}, I_E=0, f=1.0\text{MHz}$		3.0	pF
C_{ib}	$V_{EB}=0.5\text{V}, I_C=0, f=1.0\text{MHz}$		6.5	pF
NF	$V_{CE}=5.0\text{V}, I_C=100\mu\text{A}, R_S=10\text{k}\Omega, f=1.0\text{kHz}$		1.5	dB

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TO-92 CASE - MECHANICAL OUTLINE



R1

SYMBOL	INCHES		MILLIMETERS	
	MIN	MAX	MIN	MAX
A (DIA)	0.175	0.205	4.45	5.21
B	0.170	0.210	4.32	5.33
C	0.500	-	12.70	-
D	0.016	0.022	0.41	0.56
E	0.100		2.54	
F	0.050		1.27	
G	0.125	0.165	3.18	4.19
H	0.080	0.105	2.03	2.67
I	0.015		0.38	

TO-92 (REV: R1)

LEAD CODE:

- 1) Emitter
- 2) Base
- 3) Collector

MARKING:
FULL PART NUMBER

R0 (3-February 2012)

OUTSTANDING SUPPORT AND SUPERIOR SERVICES



PRODUCT SUPPORT

Central's operations team provides the highest level of support to insure product is delivered on-time.

- Supply management (Customer portals)
- Inventory bonding
- Consolidated shipping options
- Custom bar coding for shipments
- Custom product packing

DESIGNER SUPPORT/SERVICES

Central's applications engineering team is ready to discuss your design challenges. Just ask.

- Free quick ship samples (2nd day air)
- Online technical data and parametric search
- SPICE models
- Custom electrical curves
- Environmental regulation compliance
- Customer specific screening
- Up-screening capabilities
- Special wafer diffusions
- PbSn plating options
- Package details
- Application notes
- Application and design sample kits
- Custom product and package development

REQUESTING PRODUCT PLATING

1. If requesting Tin/Lead plated devices, add the suffix " TIN/LEAD" to the part number when ordering (example: 2N2222A TIN/LEAD).
2. If requesting Lead (Pb) Free plated devices, add the suffix " PBFREE" to the part number when ordering (example: 2N2222A PBFREE).

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