

2N3414 MPS3414  
 2N3415 MPS3415  
 2N3416 MPS3416  
 2N3417 MPS3417

**SILICON  
 NPN TRANSISTORS**



**TO-92 CASE**



[www.centrasemi.com](http://www.centrasemi.com)

**DESCRIPTION:**

The CENTRAL SEMICONDUCTOR 2N3414, MPS3414 series devices are silicon NPN transistors, manufactured by the epitaxial planar process, designed for general purpose and switching applications.

**MARKING: FULL PART NUMBER**

	SYMBOL	2N3414	2N3416	UNITS
		2N3415	2N3417	
<b>MAXIMUM RATINGS:</b> ( $T_A=25^\circ\text{C}$ unless otherwise noted)				
		MPS3414	MPS3416	
		MPS3415	MPS3417	
Collector-Base Voltage	$V_{CBO}$	25	50	V
Collector-Emitter Voltage	$V_{CEO}$	25	50	V
Emitter-Base Voltage	$V_{EBO}$		5.0	V
Continuous Collector Current	$I_C$		500	mA
Power Dissipation	$P_D$		625	mW
Power Dissipation ( $T_C=25^\circ\text{C}$ )	$P_D$		1.5	W
Operating and Storage Junction Temperature	$T_J, T_{stg}$		-65 to +150	$^\circ\text{C}$

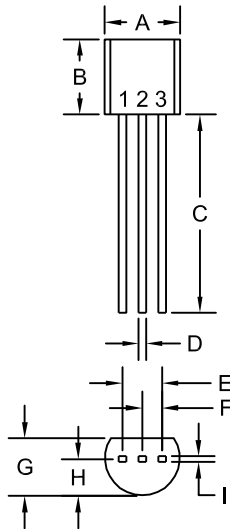
<b>ELECTRICAL CHARACTERISTICS:</b> ( $T_A=25^\circ\text{C}$ unless otherwise noted)				
SYMBOL	TEST CONDITIONS	MIN	MAX	UNITS
$I_{CBO}$	$V_{CB}=\text{Rated } V_{CBO}$		100	nA
$I_{EBO}$	$V_{EB}=5.0\text{V}$		100	nA
$BV_{CEO}$	$I_C=10\text{mA}$ (3414, 3415)	25		V
$BV_{CEO}$	$I_C=10\text{mA}$ (3416, 3417)	50		V
$V_{CE(SAT)}$	$I_C=50\text{mA}, I_B=3.0\text{mA}$		0.3	V
$V_{BE(SAT)}$	$I_C=50\text{mA}, I_B=3.0\text{mA}$		0.85	V
$h_{FE}$	$V_{CE}=4.5\text{V}, I_C=2.0\text{mA}$ (3414, 3416)	75	225	
$h_{FE}$	$V_{CE}=4.5\text{V}, I_C=2.0\text{mA}$ (3415, 3417)	180	540	
$h_{fe}$	$V_{CE}=4.5\text{V}, I_C=2.0\text{mA}, f=1.0\text{kHz}$ (3414, 3416)	75		
$h_{fe}$	$V_{CE}=4.5\text{V}, I_C=2.0\text{mA}, f=1.0\text{kHz}$ (3415, 3417)	180		

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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)

2N3414 THRU 2N3417

LEAD CODE:

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

MPS3414 THRU MPS3417

LEAD CODE:

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

MARKING:

FULL PART NUMBER

R3 (10-September 2013)

## OUTSTANDING SUPPORT AND SUPERIOR SERVICES



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### 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

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### DESIGNER SUPPORT/SERVICES

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

- Free quick ship samples (2<sup>nd</sup> 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

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### 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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### CONTACT US

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