

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

**SILICON
 NPN TRANSISTORS**



TO-92 CASE



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

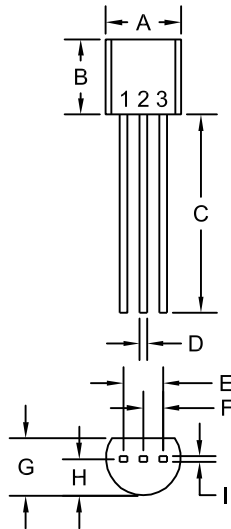
ELECTRICAL CHARACTERISTICS: ($T_A=25^\circ\text{C}$ unless otherwise noted)				
SYMBOL	TEST CONDITIONS	MIN	MAX	UNITS
I_{CBO}	$V_{CB}=\text{Rated } V_{CBO}$		100	nA
I_{EBO}	$V_{EB}=5.0\text{V}$		100	nA
BV_{CEO}	$I_C=10\text{mA}$ (3414, 3415)	25		V
BV_{CEO}	$I_C=10\text{mA}$ (3416, 3417)	50		V
$V_{CE(SAT)}$	$I_C=50\text{mA}, I_B=3.0\text{mA}$		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)