

# Central<sup>TM</sup>

## Semiconductor Corp.

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Manufacturers of World Class Discrete Semiconductors

MPQ2222  
 MPQ2222A

NPN SILICON QUAD TRANSISTOR

TO-116 CASE

### DESCRIPTION:

The CENTRAL SEMICONDUCTOR MPQ2222, MPQ2222A types are comprised of four independent Silicon NPN Transistors mounted in a 14 PIN DIP, designed for general purpose amplifier and switching applications.

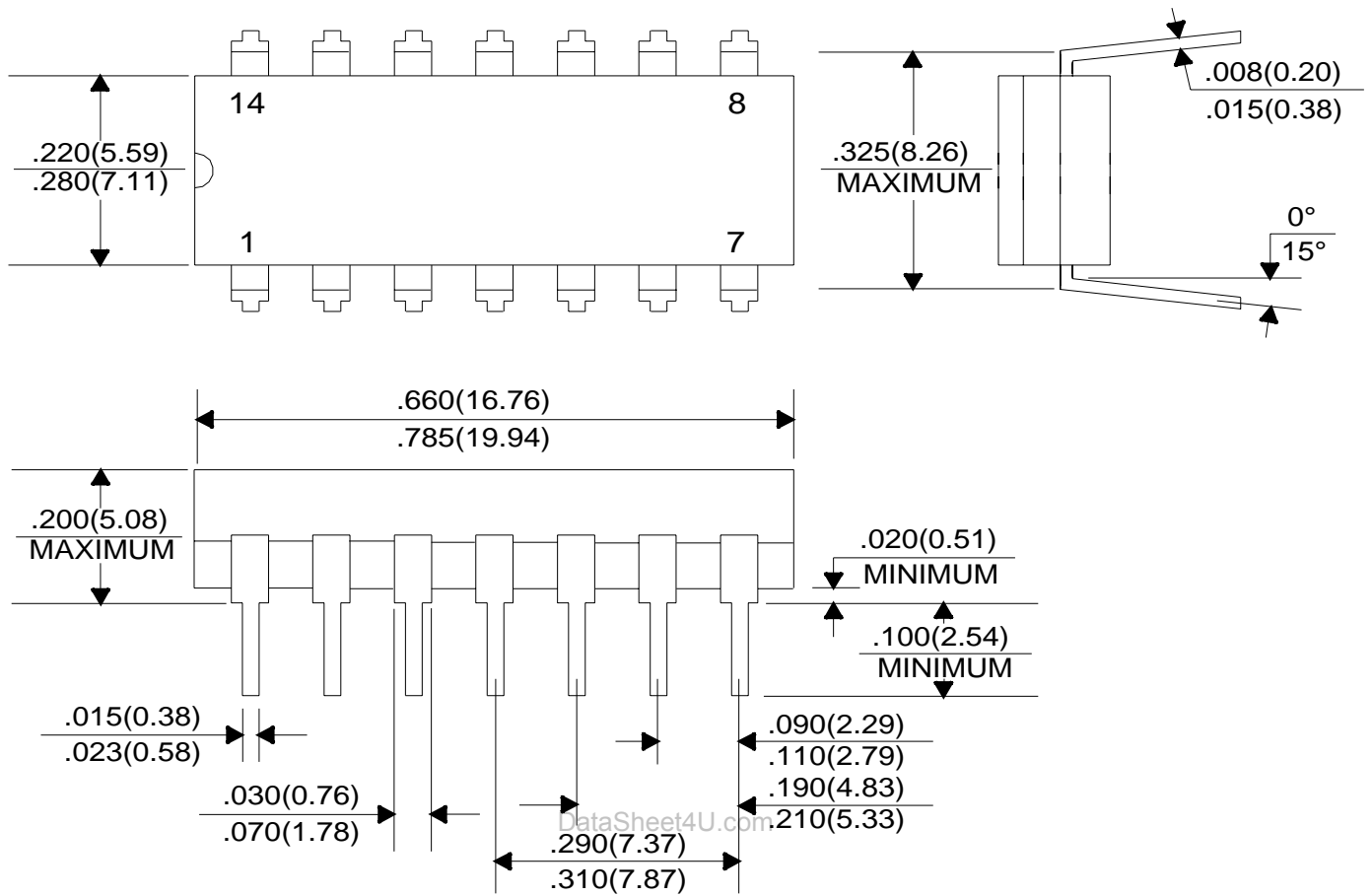
### MAXIMUM RATINGS: ( $T_A=25^\circ\text{C}$ )

	SYMBOL		UNITS
Collector-Base Voltage	$V_{CBO}$	60	V
Collector-Emitter Voltage	$V_{CEO}$	40	V
Emitter-Base Voltage	$V_{EBO}$	5.0	V
Collector Current	$I_C$	500	mA
Power Dissipation (Each Transistor)	$P_D$	650	mW
Power Dissipation (Total Package)	$P_D$	1.9	W
Operating and Storage			
Junction Temperature	$T_J, T_{stg}$	-65 to +150	$^\circ\text{C}$
Thermal Resistance (Total Package)	$\Theta_{JA}$	66	$^\circ\text{C/W}$

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

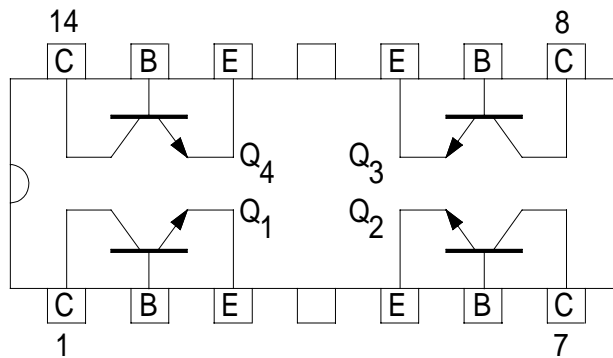
SYMBOL	TEST CONDITIONS	MPQ2222		MPQ2222A		UNITS
		MIN	MAX	MIN	MAX	
$I_{CBO}$	$V_{CB}=50\text{V}$		50			nA
$I_{CBO}$	$V_{CB}=60\text{V}$			10		nA
$I_{EBO}$	$V_{EB}=3.0\text{V}$		100	100		nA
$BV_{CBO}$	$I_C=10\mu\text{A}$	60		75		V
$BV_{CEO}$	$I_C=10\text{mA}$	40		40		V
$BV_{EBO}$	$I_E=10\mu\text{A}$	5.0		6.0		V
$V_{CE(SAT)}$	$I_C=150\text{mA}, I_B=15\text{mA}$		0.4		0.3	V
$V_{CE(SAT)}$	$I_C=300\text{mA}, I_B=30\text{mA}$		1.6			V
$V_{CE(SAT)}$	$I_C=500\text{mA}, I_B=50\text{mA}$				1.0	V
$V_{BE(SAT)}$	$I_C=150\text{mA}, I_B=15\text{mA}$		1.3	0.6	1.2	V
$V_{BE(SAT)}$	$I_C=300\text{mA}, I_B=30\text{mA}$		2.6			V
$V_{BE(SAT)}$	$I_C=500\text{mA}, I_B=50\text{mA}$				2.0	V
$h_{FE}$	$V_{CE}=10\text{V}, I_C=100\mu\text{A}$			35		
$h_{FE}$	$V_{CE}=10\text{V}, I_C=1.0\text{mA}$			50		
$h_{FE}$	$V_{CE}=10\text{V}, I_C=10\text{mA}$	75		75		
$h_{FE}$	$V_{CE}=10\text{V}, I_C=150\text{mA}$	100	300	100	300	
$h_{FE}$	$V_{CE}=10\text{V}, I_C=300\text{mA}$	30				
$h_{FE}$	$V_{CE}=10\text{V}, I_C=500\text{mA}$			40		
$f_T$	$V_{CE}=20\text{V}, I_C=20\text{mA}, f=100\text{MHz}$	200		200		MHz
$C_{ob}$	$V_{CB}=10\text{V}, I_E=0, f=1.0\text{MHz}$		8.0		8.0	pF
$C_{ib}$	$V_{EB}=0.5\text{V}, I_C=0, f=1.0\text{MHz}$		30		30	pF
$t_r$	$V_{CC}=30\text{V}, V_{BE}=0.5, I_C=150\text{mA}, I_{B1}=15\text{mA}$				35	ns
$t_s$	$V_{CC}=30\text{V}, I_C=150\text{mA}, I_{B1}=I_{B2}=15\text{mA}$				285	ns

## TO-116 CASE - MECHANICAL OUTLINE



All Dimensions in Inches (mm).

### PIN CONFIGURATION



**Central**<sup>™</sup>  
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