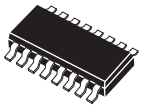
MMPQ3904

SURFACE MOUNT
NPN SILICON
QUAD TRANSISTOR



SOIC-16 CASE

Central™
Semiconductor Corp.

DESCRIPTION:

The CENTRAL SEMICONDUCTOR MMPQ3904, consisting of four transistors and available in the SOIC-16 surface mount package, is designed for general purpose amplifier and switching applications.

MARKING CODE: FULL PART NUMBER

MAXIMUM RATINGS (T_A=25°C)

	SYMBOL		UNITS
Collector-Base Voltage	V_{CBO}	60	V
Collector-Emitter Voltage	V_{CEO}	40	V
Emitter-Base Voltage	V_{EBO}	6.0	V
Continuous Collector Current	I_C	200	mA
Power Dissipation	P_D	1000	mW
Operating and Storage Junction Temperature	T_J,T_{stg}	-55 to +150	°C
Thermal Resistance (Total Package)	Θ_{JA}	125	°C/W
Thermal Resistance (Each Transistor)	Θ_{JA}	240	°C/W

ELECTRICAL CHARACTERISTICS (T_A=25°C unless otherwise noted)

SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNITS
I_{CEV}	V_{CE}=30V, V_{EB}=3.0V			50	nA
BV_{CBO}	I_C=10μA	60			V
BV_{CEO}	I_C=1.0mA	40			V
BV_{EBO}	I_E=10μA	6.0			V
$V_{CE(SAT)}$	I_C=10mA, I_B=1.0mA			0.20	V
$V_{CE(SAT)}$	I_C=50mA, I_B=5.0mA			0.30	V
$V_{BE(SAT)}$	I_C=10mA, I_B=1.0mA	0.65		0.85	V
$V_{BE(SAT)}$	I_C=50mA, I_B=5.0mA			0.95	V
h_{FE}	V_{CE}=1.0V, I_C=0.1mA	40			
h_{FE}	V_{CE}=1.0V, I_C=1.0mA	70			
h_{FE}	V_{CE}=1.0V, I_C=10mA	100		300	
h_{FE}	V_{CE}=1.0V, I_C=50mA	60			
h_{FE}	V_{CE}=1.0V, I_C=100mA	30			
f_T	V_{CE}=20V, I_C=10mA, f=100MHz		450		MHz
C_{ib}	V_{EB}=0.5V, f=1.0MHz		6.0		pF
C_{ob}	V_{CB}=5.0V, f=1.0MHz		2.5		pF
NF	V_{CE}=5.0V, I_C=100μA, R_S=1.0kΩ, f=1.0Hz to 15.7kHz		2.0		dB
t_d	V_{CC}=3.0V, V_{BE}=0.5V, I_C=10mA, I_{B1}=1.0mA		18		ns
t_r	V_{CC}=3.0V, V_{BE}=0.5V, I_C=10mA, I_{B1}=1.0mA		20		ns
t_s	V_{CC}=3.0V, I_C=10mA, I_{B1}= I_{B2}=1.0mA		150		ns
t_f	V_{CC}=3.0V, I_C=10mA, I_{B1}= I_{B2}=1.0mA		25		ns

R1 (14-November 2002)

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SURFACE MOUNT
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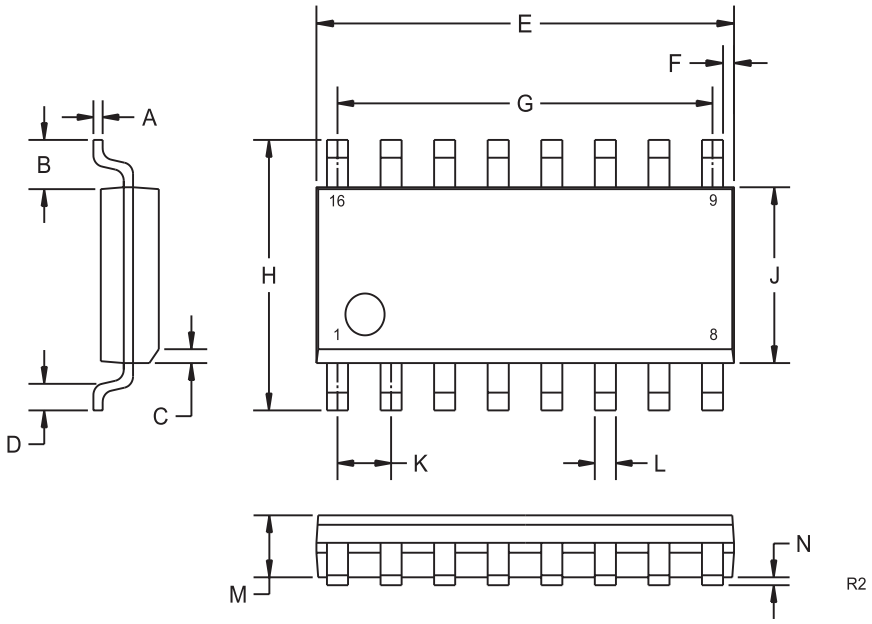
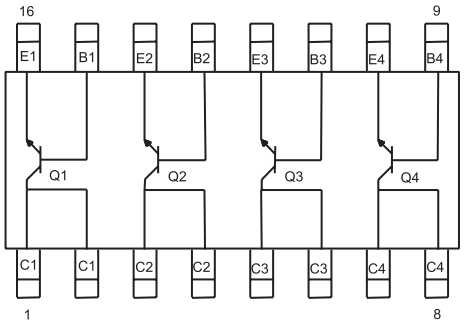
SOIC-16 CASE - MECHANICAL OUTLINE



PIN CONFIGURATION



DIMENSIONS				
	INCHES		MILLIMETERS	
SYMBOL	MIN	MAX	MIN	MAX
A	0.007	0.010	0.19	0.25
B	0.041		1.04	
C	0.010	0.020	0.25	0.50
D	0.020	0.035	0.50	0.90
E	0.386	0.394	9.80	10.00
F	0.010		0.25	
G	0.350		8.89	
H	0.228	0.244	5.80	6.20
J	0.150	0.157	3.80	4.00
K	0.050		1.27	
L	0.0138	0.0201	0.35	0.51
M	0.0531	0.0689	1.35	1.75
N	0.0039	0.0098	0.10	0.25

SOIC-16 (REV:R2)

MARKING CODE: FULL PART NUMBER

R1 (14-November 2002)