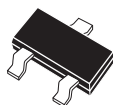


CMPT3904 NPN
CMPT3906 PNP

COMPLEMENTARY
SILICON TRANSISTORS



SOT-23 CASE

CentralTM

Semiconductor Corp.

DESCRIPTION:

The CENTRAL SEMICONDUCTOR CMPT3904, CMPT3906 types are complementary silicon transistors manufactured by the epitaxial planar process, epoxy molded in a surface mount package, designed for small signal general purpose amplifier and switching applications.

MARKING CODES:

CMPT3904: C1A

CMPT3906: C2A

MAXIMUM RATINGS: (T_A=25°C)

	SYMBOL	CMPT3904	CMPT3906	UNITS
Collector-Base Voltage	V _{CBO}	60	40	V
Collector-Emitter Voltage	V _{CEO}	40	40	V
Emitter-Base Voltage	V _{EBO}	6.0	5.0	V
Continuous Collector Current	I _C		200	mA
Power Dissipation	P _D		350	mW
Operating and Storage				
Junction Temperature	T _J , T _{stg}	-65 to +150		°C
Thermal Resistance	θ _{JA}	357		°C/W

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

SYMBOL	TEST CONDITIONS	CMPT3904		CMPT3906		UNITS
		MIN	MAX	MIN	MAX	
I _{CEV}	V _{CE} =30V, V _{EB} =3.0V		50		50	nA
I _{BL}	V _{CE} =30V, V _{EB} =3.0V		50		50	nA
BV _{CBO}	I _C =10μA	60		40		V
BV _{CEO}	I _C =1.0mA	40		40		V
BV _{EBO}	I _E =10μA	6.0		5.0		V
V _{CE(SAT)}	I _C =10mA, I _B =1.0mA		0.20		0.25	V
V _{CE(SAT)}	I _C =50mA, I _B =5.0mA		0.30		0.40	V
V _{BE(SAT)}	I _C =10mA, I _B =1.0mA	0.65	0.85	0.65	0.85	V
V _{BE(SAT)}	I _C =50mA, I _B =5.0mA		0.95		0.95	V
h _{FE}	V _{CE} =1.0V, I _C =0.1mA	40		60		
h _{FE}	V _{CE} =1.0V, I _C =1.0mA	70		80		
h _{FE}	V _{CE} =1.0V, I _C =10mA	100	300	100	300	
h _{FE}	V _{CE} =1.0V, I _C =50mA	60		60		
h _{FE}	V _{CE} =1.0V, I _C =100mA	30		30		

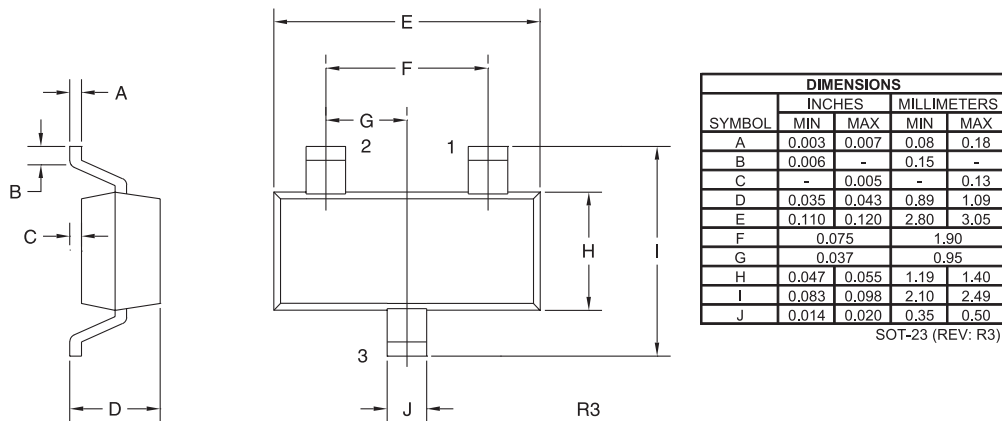
R4 (26-September 2002)

COMPLEMENTARY SILICON TRANSISTORS

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

SYMBOL UNITS	TEST CONDITIONS	CMPT3904		CMPT3906	
		MIN	MAX	MIN	MAX
f_T	$V_{CE}=20\text{V}$, $I_C=10\text{mA}$, $f=100\text{MHz}$	300		250	MHz
C_{ob}	$V_{CB}=5.0\text{V}$, $I_E=0$, $f=1.0\text{MHz}$		4.0	4.5	pF
C_{ib}	$V_{BE}=0.5\text{V}$, $I_C=0$, $f=1.0\text{MHz}$		8.0	10	pF
h_{ie}	$V_{CE}=10\text{V}$, $I_C=1.0\text{mA}$, $f=1.0\text{kHz}$	1.0	10	2.0	$k\Omega$
h_{re}	$V_{CE}=10\text{V}$, $I_C=1.0\text{mA}$, $f=1.0\text{kHz}$	0.5	8.0	0.1	$\times 10^{-4}$
h_{fe}	$V_{CE}=10\text{V}$, $I_C=1.0\text{mA}$, $f=1.0\text{kHz}$	100	400	100	
h_{oe}	$V_{CE}=10\text{V}$, $I_C=1.0\text{mA}$, $f=1.0\text{kHz}$	1.0	40	3.0	μmhos
NF	$V_{CE}=5.0\text{V}$, $I_C=100\mu\text{A}$, $R_S=1.0k\Omega$ $f=10\text{Hz}$ to 15.7kHz		5.0	4.0	dB
t_d	$V_{CC}=3.0\text{V}$, $V_{BE}=0.5$, $I_C=10\text{mA}$, $I_{B1}=1.0\text{mA}$		35	35	ns
t_r	$V_{CC}=3.0\text{V}$, $V_{BE}=0.5$, $I_C=10\text{mA}$, $I_{B1}=1.0\text{mA}$		35	35	ns
t_s	$V_{CC}=3.0\text{V}$, $I_C=10\text{mA}$, $I_{B1}=I_{B2}=1.0\text{mA}$		200	225	ns
t_f	$V_{CC}=3.0\text{V}$, $I_C=10\text{mA}$, $I_{B1}=I_{B2}=1.0\text{mA}$		50	75	ns

SOT-23 CASE - MECHANICAL OUTLINE



LEAD CODE:

- 1) BASE
- 2) EMITTER
- 3) COLLECTOR

MARKING CODES:

CMPT3904: C1A
CMPT3906: C2A