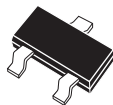


CMPT4401 NPN  
CMPT4403 PNP

COMPLEMENTARY  
SILICON TRANSISTORS



SOT-23 CASE

# Central™

**Semiconductor Corp.**

**DESCRIPTION:**

The CENTRAL SEMICONDUCTOR CMPT4401, CMPT4403 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:**

CMPT4401: C2X

CMPT4403: C2T

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

	SYMBOL	CMPT4401	CMPT4403	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	$I_C$		600	mA
Power Dissipation	$P_D$		350	mW
Operating and Storage				
Junction Temperature	$T_J, T_{stg}$		-65 to +150	$^\circ\text{C}$
Thermal Resistance	$\theta_{JA}$		357	$^\circ\text{C/W}$

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

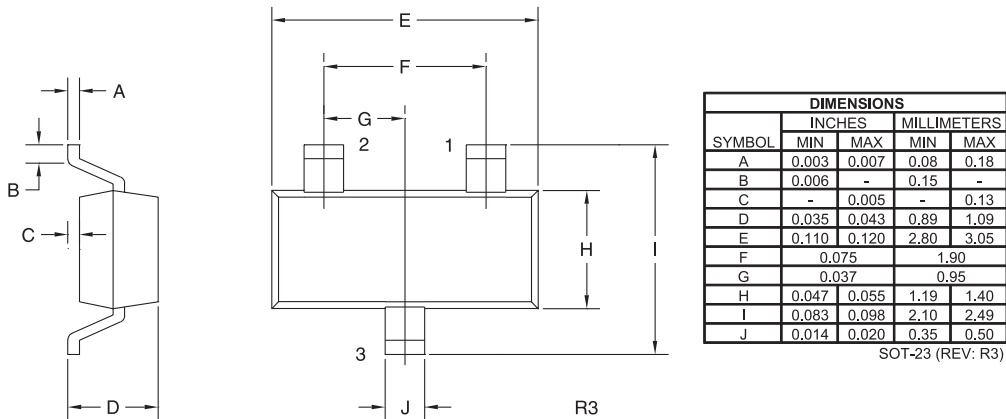
SYMBOL	TEST CONDITIONS	CMPT4401		CMPT4403		UNITS
		MIN	MAX	MIN	MAX	
$I_{CEV}$	$V_{CE}=35\text{V}, V_{EB}=0.4\text{V}$		0.1		0.1	$\mu\text{A}$
$I_{BEV}$	$V_{CE}=35\text{V}, V_{EB}=0.4\text{V}$		0.1		0.1	$\mu\text{A}$
$BV_{CBO}$	$I_C=100\mu\text{A}$	60		40		V
$BV_{CEO}$	$I_C=1.0\text{mA}$	40		40		V
$BV_{EBO}$	$I_E=100\mu\text{A}$	6.0		5.0		V
$V_{CE(SAT)}$	$I_C=150\text{mA}, I_B=15\text{mA}$		0.40		0.40	V
$V_{CE(SAT)}$	$I_C=500\text{mA}, I_B=50\text{mA}$		0.75		0.75	V
$V_{BE(SAT)}$	$I_C=150\text{mA}, I_B=15\text{mA}$	0.75	0.95	0.75	0.95	V
$V_{BE(SAT)}$	$I_C=500\text{mA}, I_B=50\text{mA}$		1.2		1.3	V
$h_{FE}$	$V_{CE}=1.0\text{V}, I_C=0.1\text{mA}$	20		30		
$h_{FE}$	$V_{CE}=1.0\text{V}, I_C=1.0\text{mA}$	40		60		
$h_{FE}$	$V_{CE}=1.0\text{V}, I_C=10\text{mA}$	80		100		

**COMPLEMENTARY  
SILICON TRANSISTORS**

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

SYMBOL	TEST CONDITIONS	CMPT4401		CMPT4403		UNITS
		MIN	MAX	MIN	MAX	
$h_{FE}$	$V_{CE}=1.0\text{V}, I_C=150\text{mA}$	100	300	-	-	
$h_{FE}$	$V_{CE}=2.0\text{V}, I_C=150\text{mA}$	-	-	100	300	
$h_{FE}$	$V_{CE}=2.0\text{V}, I_C=500\text{mA}$	40		20		
$f_T$	$V_{CE}=10\text{V}, I_C=20\text{mA}, f=100\text{MHz}$	250		200		MHz
$C_{ob}$	$V_{CB}=5.0\text{V}, I_E=0, f=1.0\text{MHz}$		6.5		8.5	pF
$C_{ib}$	$V_{BE}=0.5\text{V}, I_C=0, f=1.0\text{MHz}$		30		30	pF
$h_{ie}$	$V_{CE}=10\text{V}, I_C=1.0\text{mA}, f=1.0\text{kHz}$	1.0	15	1.5	15	$k\Omega$
$h_{re}$	$V_{CE}=10\text{V}, I_C=1.0\text{mA}, f=1.0\text{kHz}$	0.1	8.0	0.1	8.0	$\times 10^{-4}$
$h_{fe}$	$V_{CE}=10\text{V}, I_C=1.0\text{mA}, f=1.0\text{kHz}$	40	500	60	500	
$h_{oe}$	$V_{CE}=10\text{V}, I_C=1.0\text{mA}, f=1.0\text{kHz}$	1.0	30	1.0	100	$\mu\text{mhos}$
$t_d$	$V_{CC}=30\text{V}, V_{BE}=2.0, I_C=150\text{mA}, I_{B1}=15\text{mA}$		15		15	ns
$t_r$	$V_{CC}=30\text{V}, V_{BE}=2.0, I_C=150\text{mA}, I_{B1}=15\text{mA}$		20		20	ns
$t_s$	$V_{CC}=30\text{V}, I_C=150\text{mA}, I_{B1}=I_{B2}=15\text{mA}$		225		225	ns
$t_f$	$V_{CC}=30\text{V}, I_C=150\text{mA}, I_{B1}=I_{B2}=15\text{mA}$		30		30	ns

**SOT-23 CASE - MECHANICAL OUTLINE**



**LEAD CODE:**

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

**MARKING CODES:**

CMPT4401: C2X  
CMPT4403: C2T



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