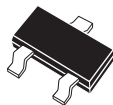


CMPT4401 NPN
CMPT4403 PNP

COMPLEMENTARY
SILICON TRANSISTORS



SOT-23 CASE

CentralTM

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	θ_{JA}	357		$^\circ\text{C/W}$

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

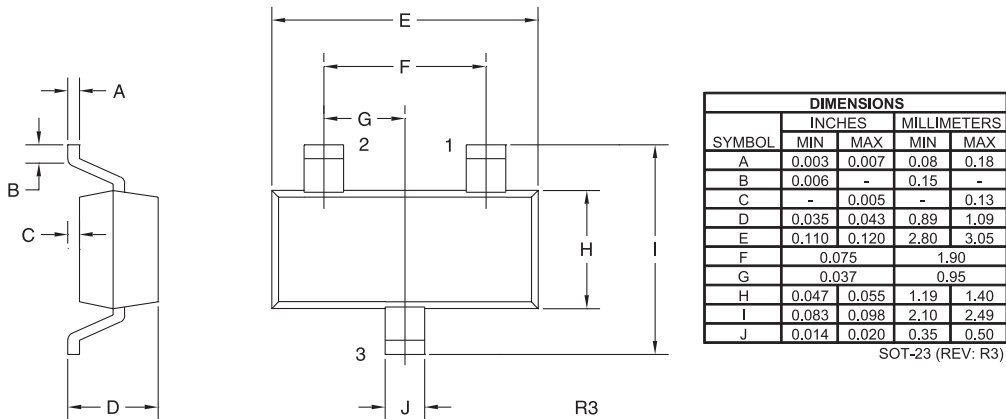
SYMBOL	TEST CONDITIONS	CMPT4401		CMPT4403		UNITS
		MIN	MAX	MIN	MAX	
I_{CEV}	$V_{CE}=35\text{V}, V_{EB}=0.4\text{V}$		0.1		0.1	μA
I_{BEV}	$V_{CE}=35\text{V}, V_{EB}=0.4\text{V}$		0.1		0.1	μA
BV_{CBO}	$I_C=100\mu\text{A}$	60		40		V
BV_{CEO}	$I_C=1.0\text{mA}$	40		40		V
BV_{EBO}	$I_E=100\mu\text{A}$	6.0		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	μmhos
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