



**THE DATASHEET OF
CMPT3904E TR PBFREE**



CMPT3904E NPN
CMPT3906E PNP

**ENHANCED SPECIFICATION
SURFACE MOUNT SILICON
COMPLEMENTARY TRANSISTORS**



SOT-23 CASE

**MARKING CODE: CMPT3904E: C1AE
CMPT3906E: C2AE**



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DESCRIPTION:

The CENTRAL SEMICONDUCTOR CMPT3904E and CMPT3906E are Enhanced versions of the CMPT3904 and CMPT3906 complementary switching transistors in a SOT-23 surface mount package, designed for small signal switching applications, interface circuit & driver circuit applications.

ENHANCED SPECIFICATIONS:

- ◆ BV_{CBO} from 40V min to 60V min. (CMPT3906E)
- ◆ BV_{EBO} from 5.0V min to 6.0V min. (CMPT3906E)
- ◆ $V_{CE(SAT)}$ from 0.3V max to 0.2V max. (CMPT3904E)
from 0.4V max to 0.2V max. (CMPT3906E)
- ◆ h_{FE} from 60 min to 70 min. (CMPT3904E) (CMPT3906E)

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

- ◆ **Collector-Base Voltage**
Collector-Emitter Voltage
- ◆ **Emitter-Base Voltage**
Continuous Collector Current
Power Dissipation
Operating and Storage Junction Temperature
Thermal Resistance

SYMBOL

SYMBOL		UNITS
V_{CBO}	60	V
V_{CEO}	40	V
V_{EBO}	6.0	V
I_C	200	mA
P_D	350	mW
T_J, T_{stg}	-65 to +150	$^\circ\text{C}$
θ_{JA}	375	$^\circ\text{C/W}$

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

SYMBOL	TEST CONDITIONS	CMPT3904E		CMPT3906E		UNITS
		MIN	TYP	TYP	MAX	
I_{CEV}	$V_{CE}=30\text{V}, V_{EB}=3.0\text{V}$				50	nA
◆ BV_{CBO}	$I_C=10\mu\text{A}$	60	115	90		V
BV_{CEO}	$I_C=1.0\text{mA}$	40	60	55		V
◆ BV_{EBO}	$I_E=10\mu\text{A}$	6.0	7.5	7.9		V
◆ $V_{CE(SAT)}$	$I_C=10\text{mA}, I_B=1.0\text{mA}$		0.057	0.050	0.100	V
◆ $V_{CE(SAT)}$	$I_C=50\text{mA}, I_B=5.0\text{mA}$		0.100	0.100	0.200	V
$V_{BE(SAT)}$	$I_C=10\text{mA}, I_B=1.0\text{mA}$	0.65	0.75	0.75	0.85	V
$V_{BE(SAT)}$	$I_C=50\text{mA}, I_B=5.0\text{mA}$		0.85	0.85	0.95	V
◆ h_{FE}	$V_{CE}=1.0\text{V}, I_C=0.1\text{mA}$	90	240	130		
◆ h_{FE}	$V_{CE}=1.0\text{V}, I_C=1.0\text{mA}$	100	235	150		
h_{FE}	$V_{CE}=1.0\text{V}, I_C=10\text{mA}$	100	215	150	300	
◆ h_{FE}	$V_{CE}=1.0\text{V}, I_C=50\text{mA}$	70	110	120		
h_{FE}	$V_{CE}=1.0\text{V}, I_C=100\text{mA}$	30	50	55		

◆ Enhanced specification

OUTSTANDING SUPPORT AND SUPERIOR SERVICES



PRODUCT SUPPORT

Central's operations team provides the highest level of support to insure product is delivered on-time.

- Supply management (Customer portals)
- Inventory bonding
- Consolidated shipping options
- Custom bar coding for shipments
- Custom product packing

DESIGNER SUPPORT/SERVICES

Central's applications engineering team is ready to discuss your design challenges. Just ask.

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- SPICE models
- Custom electrical curves
- Environmental regulation compliance
- Customer specific screening
- Up-screening capabilities
- Special wafer diffusions
- PbSn plating options
- Package details
- Application notes
- Application and design sample kits
- Custom product and package development

REQUESTING PRODUCT PLATING

1. If requesting Tin/Lead plated devices, add the suffix "TIN/LEAD" to the part number when ordering (example: 2N2222A TIN/LEAD).
2. If requesting Lead (Pb) Free plated devices, add the suffix "PBFREE" to the part number when ordering (example: 2N2222A PBFREE).

CONTACT US

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