

CMPT5087E PNP
CMPT5088E NPN

**ENHANCED SPECIFICATION
SURFACE MOUNT
COMPLEMENTARY
SILICON TRANSISTORS**



www.centrasemi.com

DESCRIPTION:

The CENTRAL SEMICONDUCTOR CMPT5087E and CMPT5088E, are Silicon transistors in an epoxy molded surface mount package with enhanced specifications designed for applications requiring high gain and low noise.

**MARKING CODES: CMPT5087E: C2QE
CMPT5088E: C1QE**



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}	50 V
V_{CEO}	50 V
V_{EBO}	5.0 V
I_C	100 mA
P_D	350 mW
T_J, T_{stg}	-65 to +150 °C
θ_{JA}	357 °C/W

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

SYMBOL	TEST CONDITIONS	TYP			UNITS
		MIN	NPN	PNP	
I_{CBO}	$V_{CB}=20V$			50	nA
I_{EBO}	$V_{EB}=3.0V$			50	nA
BV_{CBO}	$I_C=100\mu A$	50	135	150	V
◆ BV_{CEO}	$I_C=1.0mA$	50	65	105	V
◆ BV_{EBO}	$I_E=100\mu A$	5.0	8.7	7.5	V
◆ $V_{CE(SAT)}$	$I_C=10mA, I_B=1.0mA$		45	50	100 mV
◆ $V_{CE(SAT)}$	$I_C=100mA, I_B=10mA$		110	225	400 mV
◆ $V_{BE(SAT)}$	$I_C=10mA, I_B=1.0mA$		700	700	800 mV
h_{FE}	$V_{CE}=5.0V, I_C=0.1mA$	300	430	390	900
◆ h_{FE}	$V_{CE}=5.0V, I_C=1.0mA$	300	435	380	
h_{FE}	$V_{CE}=5.0V, I_C=10mA$	300	430	350	
◆ h_{FE}	$V_{CE}=5.0V, I_C=100mA$	50	125	75	
◆ f_T	$V_{CE}=5.0V, I_C=500\mu A, f=20MHz$	100			MHz
◆ C_{ob}	$V_{CB}=5.0V, I_E=0, f=1.0MHz$			4.0	pF
C_{ib}	$V_{BE}=0.5V, I_C=0, f=1.0MHz$			15	pF
h_{fe}	$V_{CE}=5.0V, I_C=1.0mA, f=1.0kHz$	350		1400	
NF	$V_{CE}=5.0V, I_C=100\mu A, R_S=10k\Omega, f=10Hz$ to 15.7kHz			3.0	dB

- ◆ Enhanced specification
- ◆◆ Additional Enhanced specification

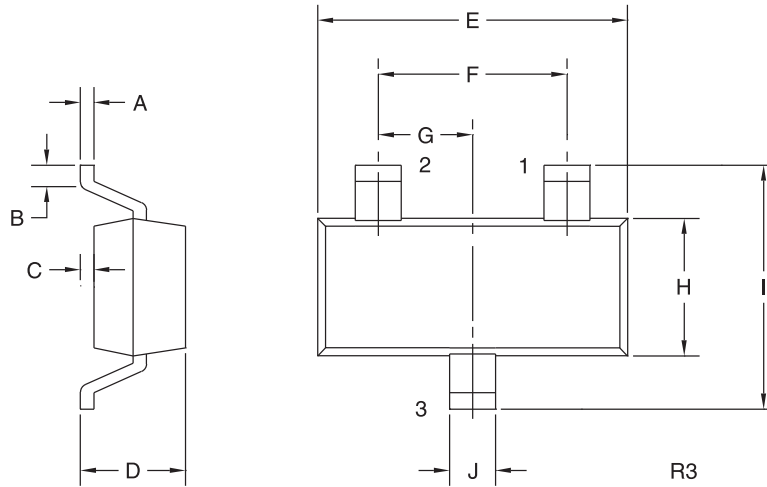
R1 (1-February 2010)

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SOT-23 CASE - MECHANICAL OUTLINE



LEAD CODE:

- 1) Base
- 2) Emitter
- 3) Collector

MARKING CODES:

CMPT5087E: C2QE
CMPT5088E: C1QE

SYMBOL	INCHES		MILLIMETERS	
	MIN	MAX	MIN	MAX
A	0.003	0.007	0.08	0.18
B	0.006	-	0.15	-
C	-	0.005	-	0.13
D	0.035	0.043	0.89	1.09
E	0.110	0.120	2.80	3.05
F	0.075		1.90	
G	0.037		0.95	
H	0.047	0.055	1.19	1.40
I	0.083	0.098	2.10	2.49
J	0.014	0.020	0.35	0.50

SOT-23 (REV: R3)

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