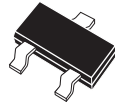


CMPH10
NPN SILICON RF TRANSISTOR



SOT-23 CASE

CentralTM

Semiconductor Corp.

DESCRIPTION:

The CENTRAL SEMICONDUCTOR CMPH10 type is an NPN silicon RF transistor manufactured by the epitaxial planar process, epoxy molded in a surface mount package, designed for low noise UHF/VHF amplifier and high output oscillator applications.

MARKING CODE: C3E

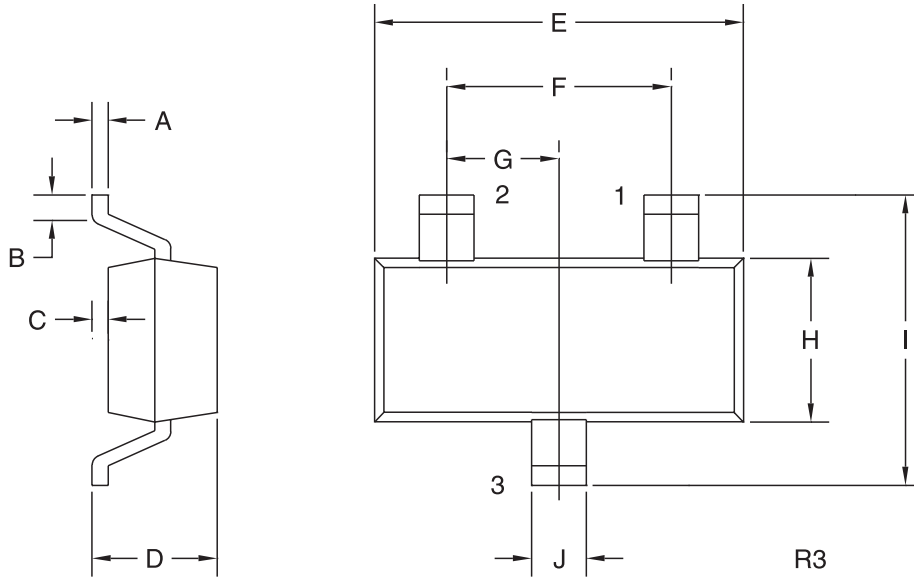
MAXIMUM RATINGS: ($T_A=25^\circ\text{C}$)

	SYMBOL		UNITS
Collector-Base Voltage	V_{CB0}	30	V
Collector-Emitter Voltage	V_{CE0}	25	V
Emitter-Base Voltage	V_{EB0}	3.0	V
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	MIN	MAX	UNITS
I_{CB0}	$V_{CB}=25\text{V}$		100	nA
I_{EB0}	$V_{EB}=2.0\text{V}$		100	nA
BV_{CB0}	$I_C=100\mu\text{A}$	30		V
BV_{CE0}	$I_C=1.0\text{mA}$	25		V
BV_{EB0}	$I_E=10\mu\text{A}$	3.0		V
$V_{CE(SAT)}$	$I_C=4.0\text{mA}, I_B=0.4\text{mA}$		0.50	V
$V_{BE(ON)}$	$V_{CE}=10\text{V}, I_B=4.0\text{mA}$		0.95	V
h_{FE}	$V_{CE}=10\text{V}, I_C=4.0\text{mA}$	60		
f_T	$V_{CE}=10\text{V}, I_C=4.0\text{mA}, f=100\text{MHz}$	650		MHz
C_{cb}	$V_{CB}=10\text{V}, I_E=0, f=1.0\text{MHz}$		0.70	pF
C_{rb}	$V_{CB}=10\text{V}, I_E=0, f=1.0\text{MHz}$		0.65	pF
$rb'C_c$	$V_{CB}=10\text{V}, I_C=4.0\text{mA}, f=31.8\text{MHz}$		9.0	ps

SOT-23 CASE- MECHANICAL OUTLINE



LEAD CODE:

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

MARKING CODE: C3E

DIMENSIONS				
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)

SYMBOL	TEST CONDITIONS	MIN	MAX	UNITS
I_{CBO}	$V_{CB}=25V$		100	nA
I_{EBO}	$V_{EB}=2.0V$		100	nA
BV_{CBO}	$I_C=100\mu A$	30		V
BV_{CEO}	$I_C=1.0mA$	25		V
BV_{EBO}	$I_E=10\mu A$	3.0		V
$V_{CE(SAT)}$	$I_C=4.0mA, I_B=0.4mA$		0.50	V
$V_{BE(ON)}$	$V_{CE}=10V, I_B=4.0mA$		0.95	V
h_{FE}	$V_{CE}=10V, I_C=4.0mA$	60		
f_T	$V_{CE}=10V, I_C=4.0mA, f=100MHz$	650		MHz
C_{cb}	$V_{CB}=10V, I_E=0, f=1.0MHz$		0.70	pF
C_{rb}	$V_{CB}=10V, I_E=0, f=1.0MHz$		0.65	pF
$rb'C_C$	$V_{CB}=10V, I_C=4.0mA, f=31.8MHz$		9.0	ps