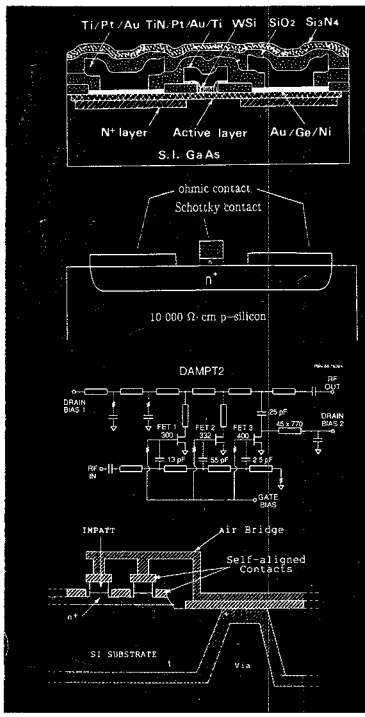
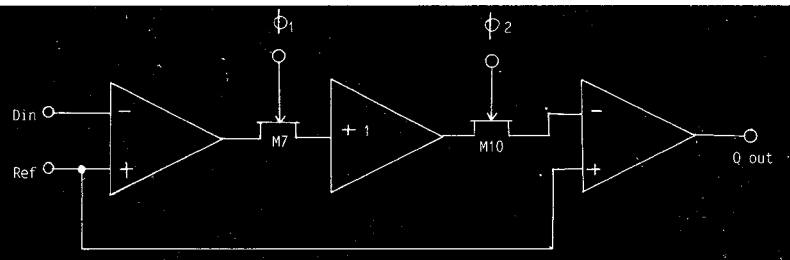
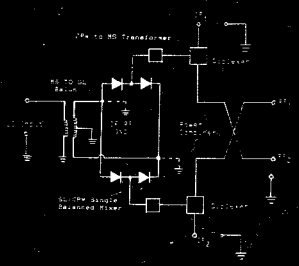
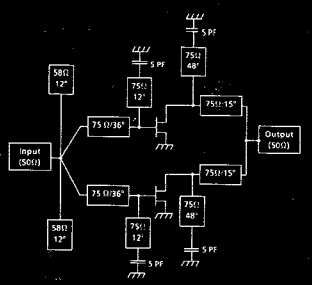
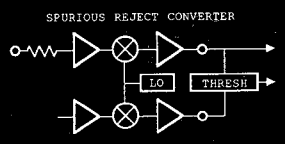
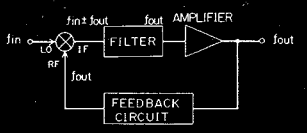

Ti/Pt/Au TiN/Pt/Au/Ti WSi SiO2 Si3N4
N+ layer
Active layer
Au/Ge/Ni
S.I. GaAs
ohmic contact
Schottky contact
n+
10 000 Ω·cm p-silicon
DAMPT2
DRAIN BIAS 1
RF OUT
DRAIN BIAS 2
FET 1 300
FET 2 350
FET 3 400
25 pF
45 x 770
13 pF
55 pF
2.5 pF
RF IN
GATE BIAS
IMPATT
Air Bridge
Self-aligned Contacts
n+
SI SUBSTRATE
Via

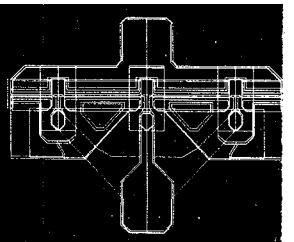

Φ1
Φ2
Din
Ref
M7
+ 1
M10
Q out

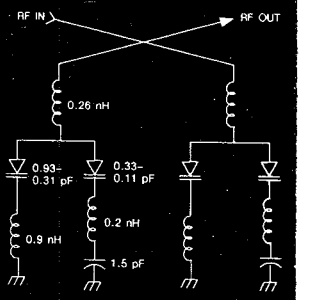



5 PF
75Ω 48°
58Ω 12°
75Ω 12°
75Ω 15°
75 Ω/36°
Input (50Ω)
Output (50Ω)


SPURIOUS REJECT CONVERTER
LO
THRESH


fin± fout
fout
AMPLIFIER
fin
LO
RF
IF
FILTER
fout
fout
FEEDBACK CIRCUIT




RF IN
RF OUT
0.26 nH
0.93-
0.31 pF
0.33-
0.11 pF
0.9 nH
0.2 nH
1.5 pF