

NPN SILICON RF POWER TRANSISTOR

DESCRIPTION:

The **ASI OSC-2.0SM** is a high performance silicon transistor designed for high power oscillator applications to 3.0 GHz with typical RF power of 2.0W

FEATURES:

- $P_{OUT} = 2.0$ tTyp. @ 2.5 GHz
- Common Collector
- Low thermal resistance
- **Omnigold™** Metalization System

MAXIMUM RATINGS

I_C	640 mA
V_{CBO}	45 V
V_{CEO}	22 V
V_{EBO}	3.5 V
T_J	-65 °C to +200 °C
T_{STG}	-65 °C to +200 °C
θ_{JC}	7.0 °C/W

PACKAGE STYLE .230 2L FLG

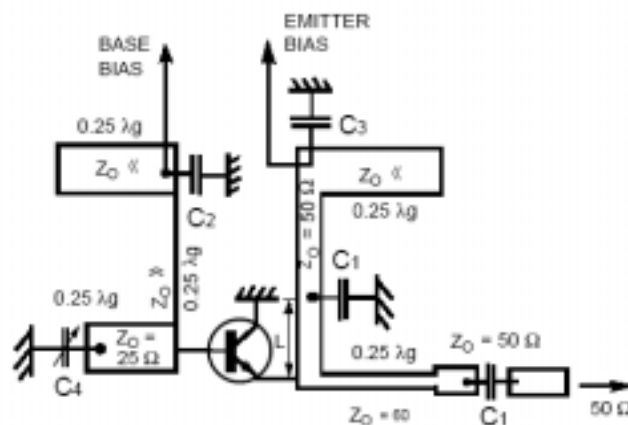
DIM	MINIMUM inches / mm	MAXIMUM inches / mm
A	.028 / 0.71	.032 / 0.81
B	.740 / 18.80	
C	.245 / 6.22	.255 / 6.48
D	.128 / 3.25	.132 / 3.35
E		.125 / 3.18
F	.110 / 2.79	.117 / 2.97
G		.117 / 2.97
H	.560 / 14.22	.570 / 14.48
I	.790 / 20.07	.810 / 20.57
J	.225 / 5.72	.235 / 5.97
K	.165 / 4.19	.185 / 4.70
L	.003 / 0.08	.007 / 0.18
M	.058 / 1.47	.068 / 1.73
N	.119 / 3.02	.135 / 3.43
P	.149 / 3.78	.187 / 4.75

ORDER CODE: ASI10639

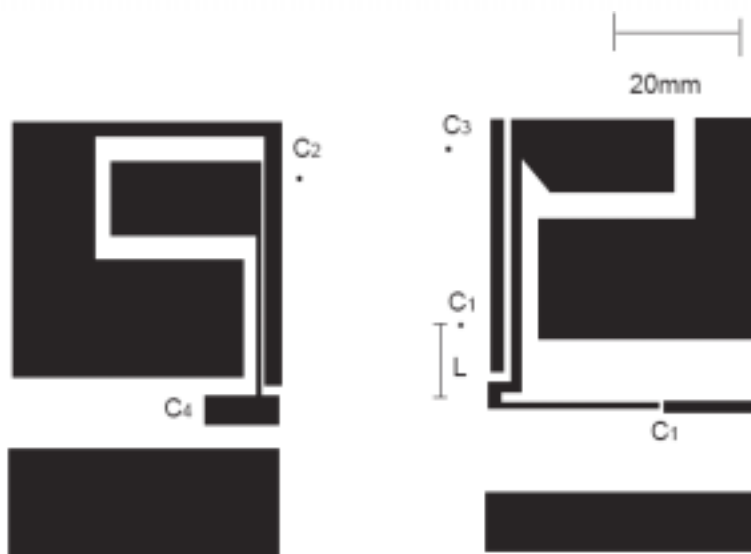
CHARACTERISTICS $T_C = 25\text{ °C}$

SYMBOL	TEST CONDITIONS	MINIMUM	TYPICAL	MAXIMUM	UNITS
BV_{CBO}	$I_C = 2.0$ mA	45			V
BV_{CEO}	$I_C = 40.0$ mA	22			V
BV_{EBO}	$I_E = 0.5$ mA	3.5			V
I_{CBO}	$V_{CB} = 28$ V			640	mA
h_{FE}	$V_{CE} = 5.0$ V $I_C = 200$ mA	20		120	---
C_{OB}	$V_{CB} = 28$ V $f = 1.0$ MHz		7		pF
P_G η_C	$V_{CC} = 21$ V $I_{CQ} = 300$ mA $f = 2.0$ GHz $P_{OUT} = 2.5$ W	4.5	30		dB %

- C1 = 220pF (chip)
- C2 = 220pF (chip) + 10nF
- C3 = 220pF(chip) + 10nF + 10μF
- C4 = 0.6 - 4.5 pF (Frequency Tuning)
- L = adjust to obtain maximum output
- PC Board Material -- Glass Teflon
- $\epsilon_r = 2.55$



- for $f = 2$ GHz $L = 24$ mm
- for $f = 2.3$ GHz $L = 19$ mm
- for $f = 2.5$ GHz $L = 14$ mm



PC Board layout for $f = 2.3$ GHz (BW = 500Mhz)