NPN SILICON RF POWER TRANSISTOR

DESCRIPTION:

The **ASI ULBM5SL** is Designed for Class C, FM Land Mobile Applications up to 470 MHz.

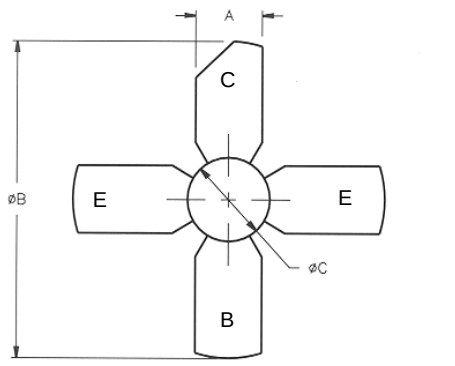
FEATURES:

- Common Emitter
- P_G = 8.5 dB at 5.0 W/470 MHz
- ***Omnigold***™ Metalization System

MAXIMUM RATINGS

I_C	1.7 A
V_{CBO}	36 V
V_{CER}	16 V
V_{CES}	36 V
V_{EBO}	4.0 V
P_{DISS}	15 W @ T_C = 25 °C
T_J	-65 °C to +200 °C
T_{STG}	-65 °C to +150 °C
θ_{JC}	12 °C/W

PACKAGE STYLE .280 4L PILL



	MINIMUM INCHES/MM	MAXIMUM INCHES/MM		MINIMUM INCHES/MM	MAXIMUM INCHES/MM
A	.220/5,59	.230/5,84			
B	-----	1.055/26,8			
C	.275/6,99	.285/7,24			
D	.004/0,10	.006/0,15			
E	.050/1,27	.060/1,52			
F	.118/3,00	.130/3,30			

ORDER CODE: ASI10681

CHARACTERISTICS T_C = 25 °C

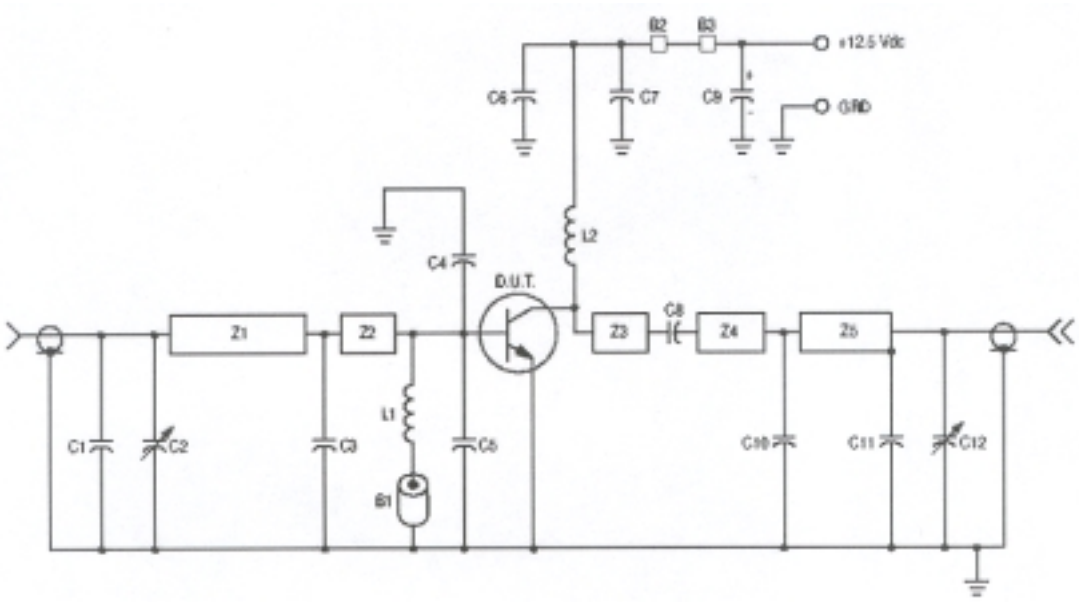
SYMBOL	TEST CONDITIONS	MINIMUM	TYPICAL	MAXIMUM	UNITS
BV_{CEO}	I_C = 50 mA	16			V
BV_{CES}	I_C = 10 mA	36			V
BV_{EBO}	I_E = 2.0 mA	4.0			V
I_{CER}	V_{CE} = 10 V R_{BE} = 50 Ω			0.5	mA
I_{CBO}	V_{CB} = 15 V			1.0	mA
h_{FE}	V_{CE} = 5.0 V I_C = 1.0 A	10		100	---
C_{ob}	V_{CB} = 7.5 V f = 1.0 MHz			22	pF
P_G	V_{CC} = 7.5 V P_{OUT} = 5.0 W f = 470 MHz	8.5			dB
η_C			60		%

TYPICAL IMPEDANCE DATA:

FREQUENCY (MHz)	Z_{IN} (Ω)	Z_{CL} (Ω)
400	1.2 + j0.6	6.9 – j6.5
440	1.2 + j0.9	7.2 – j6.0
470	1.2 + j1.2	7.7 – j5.3
512	1.2 + j1.5	8.3 – j4.5

Conditions: V_{CC} = 12.5 V, P_{OUT} = 5.0 W

TEST CIRCUIT



B1,B2, B3 – Ferrite Bead
C1 – 7.0 pF Unelco Mica
C2 – 1.0-6.0 pF Johanson Variable 5201
C3 – 15 pF Unelco Mica
C4 – 43 pF Mini-Underwood Mica
C5 – 56 Mini-Underwood Mica
C6 – 1000 pF Unelco Mica
C7 – 0.1 pF Ceramic
C8 – 68 pF Mini-Underwood Mica
C9 – 1.0 µF Electrolytic 25 V
C10,C11 – 5.0 pF Unelco Mica
C12 – 1.0-10 pF Johanson Variable 5501
L1, L2 – 6 Turns, 20 AWG Wire 0.125" ID
Z1, Z2 – 25 Ω µStripline
Z3,Z4,Z5 – 50 Ω µStripline
Board – 0.032" Glass-Teflon

440-512 MHz Broadband Test Circuit