

NPN SILICON RF POWER TRANSISTOR

DESCRIPTION:

The **ASI VHB100-12** is a Class-C, 12.5 V epitaxial silicon NPN transistor. Designed primarily for VHF, FM communication, Diffused ballast resistor gives it high VSWR capability, good gain & efficiency over the 136-175 MHz band.

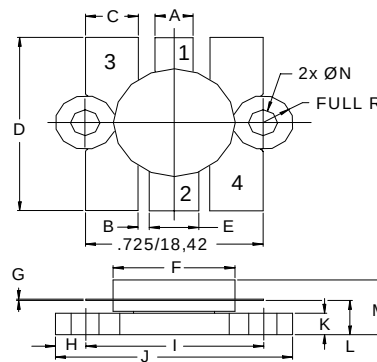
FEATURES:

- 175 MHz 12.5 V
- Internal Input Matching Network
- $P_G = 6.0$ dB at 100 W/175 MHz
- **Omnigold™** Metalization System
- Common Emitter configuration

MAXIMUM RATINGS

I_C	20 A
V_{CBO}	36 V
V_{CEO}	18 V
V_{CES}	36 V
V_{EBO}	4.0 V
P_{DISS}	270 W @ $T_C = 25^\circ C$
T_J	$-65^\circ C$ to $+200^\circ C$
T_{STG}	$-65^\circ C$ to $+150^\circ C$
θ_{JC}	0.65 $^\circ C/W$

PACKAGE STYLE .500 6L FLG



DIM	MINIMUM inches / mm	MAXIMUM inches / mm
A	.150 / 3.43	.160 / 4.06
B	.045 / 1.14	
C	.210 / 5.33	.220 / 5.59
D	.835 / 21.21	.865 / 21.97
E	.200 / 5.08	.210 / 5.33
F	.490 / 12.45	.510 / 12.95
G	.003 / 0.08	.007 / 0.18
H	.125 / 3.18	
I	.725 / 18.42	
J	.970 / 24.64	.980 / 24.89
K	.090 / 2.29	.105 / 2.67
L	.150 / 3.81	.170 / 4.32
M	.285 / 7.24	
N	.120 / 3.05	.135 / 3.43

1 = Collector 2 = Base 3&4 = Emitter

ORDER CODE: ASI10719

CHARACTERISTICS $T_C = 25^\circ C$

SYMBOL	TEST CONDITIONS	MINIMUM	TYPICAL	MAXIMUM	UNITS
BV_{CEO}	$I_C = 100$ mA	18			V
BV_{CES}	$I_C = 100$ mA	36			V
BV_{CBO}	$I_C = 50$ mA	36			V
BV_{EBO}	$I_E = 10$ mA	4.0			V
I_{CES}	$V_{CE} = 12.5$ V			15	mA



CHARACTERISTICS $T_C = 25\text{ }^{\circ}\text{C}$

SYMBOL	TEST CONDITIONS		MINIMUM	TYPICAL	MAXIMUM	UNITS
h_{FE}	$V_{CE} = 5.0\text{ V}$	$I_C = 5.0\text{ A}$	10		100	---
C_{OB}	$V_{CB} = 12.5\text{ V}$	$f = 1.0\text{ MHz}$			390	pF
P_G η_c	$V_{CC} = 12.5\text{ V}$ $P_{IN} = 25\text{ W}$	$P_{OUT} = 100\text{ W}$ $f = 175\text{ MHz}$	6.0	60		dB %

IMPEDANCE DATA

FREQ	$Z_{IN} (\Omega)$	$Z_{CL} (\Omega)$
175 MHz	$1.05 - j0.9$	$0.5 - j1.0$