

# NPN SILICON RF POWER TRANSISTOR

**DESCRIPTION:**

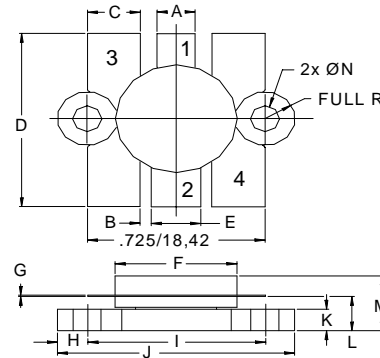
The **ASI VHB100-12** is a Class-C, 12.5 V epitaxial silicon NPN transistor. Designed primarily for VHF, FM communication, Diffused ballast resistor gives it high VSWR capability, good gain & efficiency over the 136-175 MHz band.

**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 @ $T_C = 25$ °C
$T_J$	-65 °C to +200 °C
$T_{STG}$	-65 °C to +150 °C
$\theta_{JC}$	0.65 °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**  $T_C = 25$  °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
$P_G$ $\eta_c$	$V_{CC} = 12.5\text{ V}$ $P_{IN} = 25\text{ W}$	$P_{OUT} = 100\text{ W}$	$f = 175\text{ MHz}$	6.0	60		dB %

**IMPEDANCE DATA**

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