

# NPN SILICON RF POWER TRANSISTOR

**DESCRIPTION:**

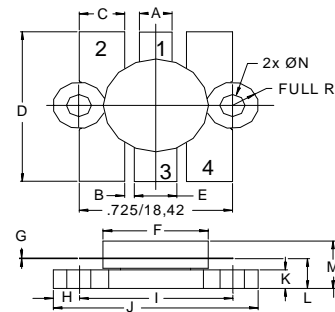
The **ASI VHB125-28** is NPN RF power transistor designed primarily for VHF communications. It utilizes Emitter ballasting to provide high VSWR handling capability.

**FEATURES:**

- CE configuration, 28 V operation
- Internal Input Matching Network
- $P_G = 9.2$  dB at 125 W/175 MHz
- **Omnigold™** Metalization System
- High VSWR capability

**MAXIMUM RATINGS**

$I_C$	20 A
$V_{CBO}$	65 V
$V_{CEO}$	36 V
$V_{CES}$	65 V
$V_{EBO}$	4.0 V
$P_{DISS}$	270 W @ $T_C = 25^\circ C$
$T_J$	-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 & 4 = EMITTER 3 = BASE

**ORDER CODE: ASI10731**

**CHARACTERISTICS**  $T_C = 25^\circ C$ 

SYMBOL	TEST CONDITIONS	MINIMUM	TYPICAL	MAXIMUM	UNITS
$BV_{CBO}$	$I_C = 100$ mA	65			V
$BV_{CES}$	$I_C = 100$ mA	65			V
$BV_{CEO}$	$I_C = 100$ mA	35			V
$BV_{EBO}$	$I_E = 10$ mA	4.0			V
$I_{CES}$	$V_{CE} = 30$ V			15	mA
$h_{FE}$	$V_{CE} = 5.0$ V $I_C = 5.0$ A	20		200	---

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

SYMBOL	TEST CONDITIONS	MINIMUM	TYPICAL	MAXIMUM	UNITS
$C_{OB}$	$V_{CB} = 28\text{ V}$ $f = 1.0\text{ MHz}$			250	pF
$P_G$	$V_{CE} = 28\text{ V}$ $P_{IN} = 15\text{ W}$	9.0			dB
$\eta_c$	$P_{OUT} = 125\text{ W}$ $f = 138\text{-}175\text{ MHz}$	55			%

**IMPEDANCE DATA**

FREQ	$Z_{IN} (\Omega)$	$Z_{CL} (\Omega)$
136 MHz	$0.48 - j0.3$	$1.35 + j1.92$
160 MHz	$0.40 - j0.97$	$1.0 + j1.5$
175 MHz	$0.35 - j1.05$	$0.85 + j1.08$

 $P_{OUT} = 125\text{ W}$  $V_{CE} = 28\text{ V}$