# NPN SILICON RF POWER TRANSISTOR

## DESCRIPTION:

The **ASI VHB10-12S** is Designed for 12.5 V, High Band Application.

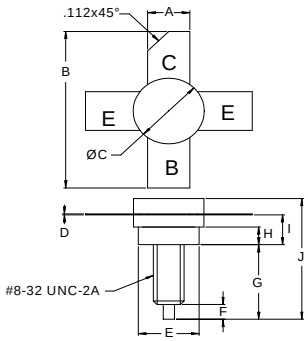
## FEATURES:

- Common Emitter
- $P_G$ = 10 dB at 10 W/175 MHz
- ***Omnigold***™ Metalization System

## MAXIMUM RATINGS

| | |
|---|---|
| $I_C$ | 2.0 A |
| $V_{CBO}$ | 36 V |
| $V_{CEO}$ | 18 V |
| $V_{CES}$ | 36 V |
| $V_{EBO}$ | 4.0 V |
| $P_{DISS}$ | 20 W @ $T_C$ = 25 °C |
| $T_J$ | -65 °C to +200 °C |
| $T_{STG}$ | -65 °C to +150 °C |
| $\theta_{JC}$ | 8.8 °C/W |

## PACKAGE STYLE .380 4L STUD




| DIM | MINIMUM inches / mm | MAXIMUM inches / mm |
|---|---|---|
| A | .220 / 5.59 | .230 / 5.84 |
| B | .980 / 24.89 | |
| C | .370 / 9.40 | .385 / 9.78 |
| D | .004 / 0.10 | .007 / 0.18 |
| E | .320 / 8.13 | .330 / 8.38 |
| F | .100 / 2.54 | .130 / 3.30 |
| G | .450 / 11.43 | .490 / 12.45 |
| H | .090 / 2.29 | .100 / 2.54 |
| I | .155 / 3.94 | .175 / 4.45 |
| J | | .750 / 19.05 |

**ORDER CODE: ASI10713**

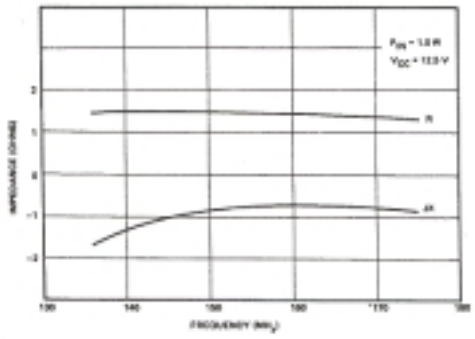
## CHARACTERISTICS $T_C$ = 25 °C

| SYMBOL | TEST CONDITIONS | MINIMUM | TYPICAL | MAXIMUM | UNITS |
|---|---|---|---|---|---|
| $BV_{CEO}$ | $I_C$ = 15 mA | 18 | | | V |
| $BV_{CES}$ | $I_C$ = 50 mA | 36 | | | V |
| $BV_{EBO}$ | $I_E$ = 2.5 mA | 4.0 | | | V |
| $I_{CBO}$ | $V_{CB}$ = 15 V | | | 1.0 | mA |
| $h_{FE}$ | $V_{CE}$ = 5.0 V $I_C$ = 250 mA | 5.0 | | 200 | --- |
| | | | | | |
| $C_{OB}$ | $V_{CB}$ = 12.5 V f = 1.0 MHz | | | 45 | pF |
| | | | | | |
| $P_G$ | $V_{CE}$ = 12.5 V $P_{OUT}$ = 10 W f = 175 MHz | 10 | | | dB |
| $\eta_C$ | | | 60 | | % |

## IMPEDANCE DATA

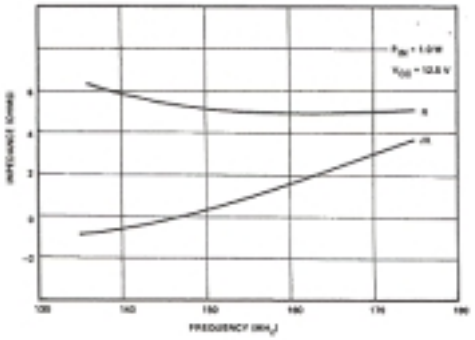
TYPICAL INPUT IMPEDANCE

$Z_{IN}$



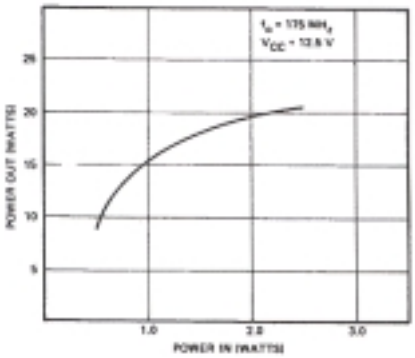
TYPICAL COLLECTOR LOAD IMPEDANCE

$Z_{CL}$



TYPICAL PERFORMANCE

POWER OUTPUT vs POWER INPUT




POWER OUTPUT vs FREQUENCY