

NPN SILICON RF POWER TRANSISTOR

DESCRIPTION:

The **ASI TVU001** is designed for UHF linear applications; especially TV bands IV & V. It is characterized for high linearity, Class-A operation. It utilizes Emitter Ballasting and gold metalization for ruggedness & reliability.

FEATURES:

- Common Emitter, 20 V operation
- $P_G = 10$ dB at 1.0 W/860 MHz
- **Omnigold™** Metalization System
- Emitter Ballasting

MAXIMUM RATINGS

I_C	1.2 A
V_{CBO}	45 V
V_{CEO}	25 V
V_{EBO}	3.5 V
P_{DISS}	19.4 W @ $T_C = 25^\circ\text{C}$
T_J	-65 °C to +200 °C
T_{STG}	-65 °C to +150 °C
θ_{JC}	9.0 °C/W

PACKAGE STYLE .280 4L STUD

DIM	MINIMUM inches / mm	MAXIMUM inches / mm
A	1.010 / 25.65	1.055 / 26.80
B	.220 / 5.59	.230 / 5.84
C	.270 / 6.86	.285 / 7.24
D	.003 / 0.08	.007 / 0.18
E	.117 / 2.97	.137 / 3.48
F	.572 / 14.53	
G	.130 / 3.30	
H	.245 / 6.22	.255 / 6.48
I	.640 / 16.26	
J	.175 / 4.45	.217 / 5.51
K	.275 / 6.99	.285 / 7.24

ORDER CODE: ASI10643

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

SYMBOL	TEST CONDITIONS	MINIMUM	TYPICAL	MAXIMUM	UNITS
BV_{CBO}	$I_C = 2.0$ mA	45			V
BV_{CER}	$I_C = 40$ mA $R_{BE} = 10 \Omega$	50			V
BV_{CEO}	$I_C = 40$ mA	24			V
BV_{EBO}	$I_E = 0.5$ mA	3.5			V
I_{CBO}	$V_{CB} = 28$ V			0.45	mA

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

h_{FE}	$V_{CE} = 5.0\text{ V}$	$I_C = 200\text{ mA}$	20	120	---
C_{OB}	$V_{CB} = 28\text{ V}$	$f = 1.0\text{ MHz}$		7.0	pF
P_G IMD_3	$V_{CE} = 20\text{ V}$ $f_1 = 860\text{ MHz (-8 dBc)}$, $f_3 = 864.5\text{ MHz (-7 dBc)}$	$I_C = 440\text{ mA}$ $f_2 = 863.5\text{ MHz (-16 dBc)}$	$P_{OUT} = 1.0\text{ W}$ 10 -60		dB dBc

IMPEDANCE DATA

FREQ. (MHz)	Z_{IN} (Ω)	Z_{CL} (Ω)
470	$2.0 - j1.5$	$23 - j35$
650	$1.9 - j0.9$	$15 - j27$
860	$1.8 + j0.8$	$8.0 - j15$