

# NPN SILICON RF POWER TRANSISTOR

**DESCRIPTION:**

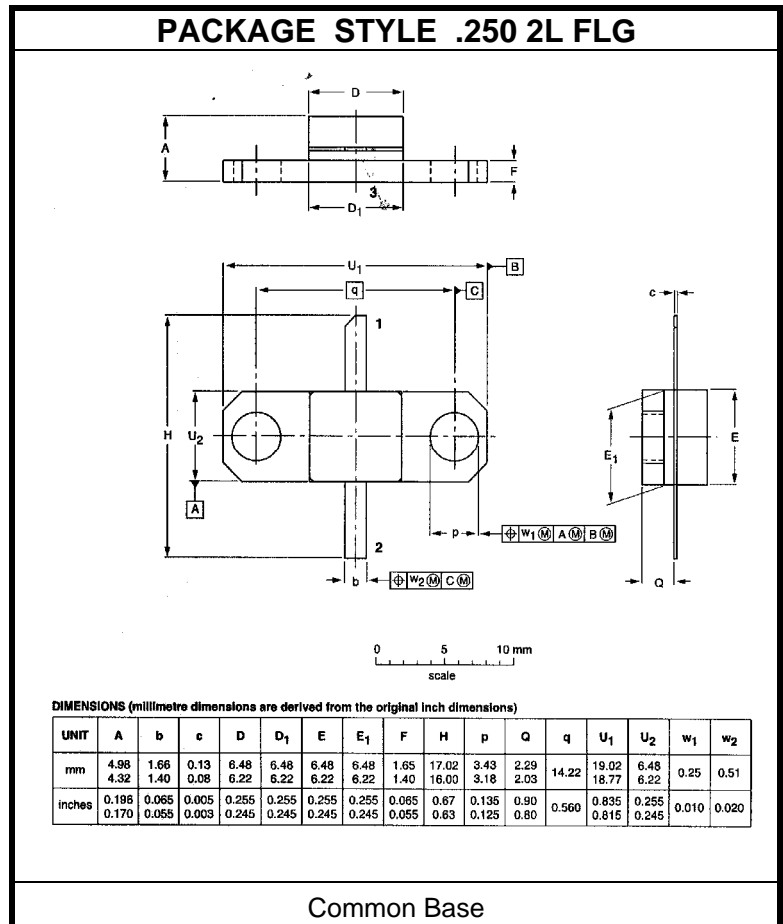
The **ASI AM81214-015** is an NPN silicon bipolar transistor designed for L-Band pulsed radar applications. It utilizes internal matching and gold metalization for high reliability and good VSWR capability.

**FEATURES:**

- 1.2 to 1.4 GHz operation
- Internal Input/Output Matching Network
- $P_G = 8.5$  dB at 14.5 W/1400 MHz
- **Omnigold™** Metalization System
- 5:1 VSWR capability rated at conditions

**MAXIMUM RATINGS**

$I_C$	1.8 A
$V_{CC}$	32 V
$P_{DISS}$	37.5 W @ $T_C = 25$ °C
$T_J$	-65 °C to +250 °C
$T_{STG}$	-65 °C to +200 °C
$\theta_{JC}$	4.0 °C/W


**CHARACTERISTICS**  $T_C = 25$  °C

SYMBOL	TEST CONDITIONS	MINIMUM	TYPICAL	MAXIMUM	UNITS
$BV_{CBO}$	$I_C = 15$ mA	48			V
$BV_{CER}$	$I_C = 15$ mA $R_{BE} = 10$ Ω	48			V
$BV_{EBO}$	$I_E = 1.5$ mA	3.5			V
$I_{CES}$	$V_{CE} = 28$ V $V_{BE} = 28$ V			1.5	mA
$h_{FE}$	$V_{CE} = 5.0$ V $I_C = 1.0$ A	30		300	---

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

SYMBOL	TEST CONDITIONS	MINIMUM	TYPICAL	MAXIMUM	UNITS
$P_G$ $\eta_c$	$V_{CC} = 28\text{ V}$ $P_{IN} = 2.0\text{ W}$ $P_{OUT} = 15\text{ W}$ $f = 1.2\text{ to }1.4\text{ GHz}$	8.5 48			<b>dB</b> <b>%</b>

Pulse width = 1000  $\mu\text{sec}$ , Duty Cycle = 10%**IMPEDANCE DATA**

FREQ	$Z_{IN} (\Omega)$	$Z_{CL} (\Omega)$
1.2 GHz	$3.0 + j6.5$	$16 + j3.0$
1.3 GHz	$3.5 + j7.5$	$13 + j6.0$
1.4 GHz	$5.0 + j7.0$	$11 + j5.0$