

NPN SILICON RF POWER TRANSISTOR

DESCRIPTION:

The **ASI SD1434** is a gold metallized RF power transistor designed for 12.5 V class-C UHF communication applications. The device utilizes emitter ballasting to achieve high reliability and ruggedness.

FEATURES:

- Internal Input Matching Network
- $P_G = 5.0$ dB at 45 W/470 MHz
- **Omnigold™** Metalization System
- Common Emitter, 12.5 V operation

MAXIMUM RATINGS

I_C	10.0 A
V_{CBO}	36 V
V_{CEO}	16 V
V_{CES}	36 V
V_{EBO}	4.0 V
P_{DISS}	175 W @ $T_C = 25^\circ\text{C}$
T_J	-65 °C to +200 °C
T_{STG}	-65 °C to +150 °C
θ_{JC}	1.0 °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

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

SYMBOL	TEST CONDITIONS	MINIMUM	TYPICAL	MAXIMUM	UNITS
BV_{CEO}	$I_C = 50$ mA	16			V
BV_{CES}	$I_C = 20$ mA	36			V
BV_{CBO}	$I_C = 5.0$ mA	36			
BV_{EBO}	$I_E = 5.0$ mA	4.0			V
I_{CBO}	$V_{CB} = 15$ V			5.0	mA

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

SYMBOL	TEST CONDITIONS	MINIMUM	TYPICAL	MAXIMUM	UNITS
I_{CES}	$V_{CE} = 22\text{ V}$			5.0	mA
h_{FE}	$V_{CE} = 5.0\text{ V}$ $I_C = 1.0\text{ A}$	20		200	---
C_{ob}	$V_{CB} = 12.5\text{ V}$ $f = 1.0\text{ MHz}$		130		pF
P_G η_c	$V_{CE} = 12.5\text{ V}$ $P_{OUT} = 45\text{ W}$ $f = 470\text{ MHz}$	5.0	60		dB %

IMPEDANCE DATA

FREQ MHz	$Z_{IN} (\Omega)$	$Z_{CL} (\Omega)$
170	$1.5 - j3.8$	$1.4 - j2.4$
512	$0.75 - j1.3$	$0.6 - j0.8$