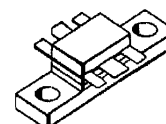


RF & MICROWAVE TRANSISTORS 800/900 MHz APPLICATIONS

Features

- 900 MHz
- 24 VOLTS
- $P_{OUT} = 14$ WATTS
- $G_p = 9.7$ dB MINIMUM
- GOLD METALIZATION
- 20:1 VSWR CAPABILITY @ RATED CONDITIONS
- COMMON BASE CONFIGURATION

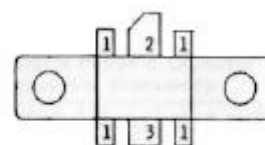


.230 6LFL (M118)
 epoxy sealed

DESCRIPTION:

The SD1400-02 is a 24V class C silicon NPN planar transistor designed for base station applications. Internal impedance matching provides improved power gain over the 806 - 900 MHz frequency range. Gold metalization and emitter ballasting provide superior long term reliability.

PIN CONNECTION



1. BASE
 2. COLLECTOR
 3. EMITTER

ABSOLUTE MAXIMUM RATINGS (Tcase = 25°C)

Symbol	Parameter	Value	Unit
V_{CBO}	Collector- Base Voltage	55	V
V_{CEO}	Collector- Emitter Voltage	28	V
V_{EBO}	Emitter - Base Voltage	4.0	V
I_C	Device Current	2.0	A
P_{DISS}	Power Dissipation	57.5	W
T_J	Junction temperature	200	°C
T_{STG}	Storage Temperature	-65 to + 150	°C

Thermal Data

$R_{TH(J-C)}$	Thermal Resistance Junction-case	3.0	°C/W
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ELECTRICAL SPECIFICATIONS (Tcase = 25°C)

STATIC

Symbol	Test Conditions		Value			Unit
			Min.	Typ.	Max.	
BV_{CES}	$I_C = 50\text{mA}$	$V_{BE} = 0\text{ V}$	55	---	---	V
BV_{EBO}	$I_E = 10\text{mA}$	$I_C = 0\text{ mA}$	4.0	---	---	V
BV_{CEO}	$I_C = 50\text{ mA}$	$I_B = 0\text{ mA}$	28			V
I_{CBO}	$V_{CB} = 15\text{V}$	$I_E = 0\text{ mA}$	---	---	2.5	mA
HFE	$V_{CE} = 5.0\text{ V}$	$I_C = 1.0\text{ A}$	20	---	100	---

DYNAMIC

Symbol	Test Conditions			Value			Unit
				Min.	Typ.	Max.	
P_{OUT}	$f = 900\text{ MHz}$	$P_{IN} = 1.5\text{ W}$	$V_{CE} = 24\text{V}$	14	---	---	W
G_P	$f = 900\text{ MHz}$	$P_{IN} = 1.5\text{W}$	$V_{CE} = 24\text{V}$	9.7	---	---	dB
η_C	$f = 900\text{ MHz}$	$P_{IN} = 1.5\text{W}$	$V_{CE} = 24\text{V}$	50	---	---	%
C_{OB}	$f = 1\text{ MHz}$	$V_{CB} = 30\text{V}$		---	---	18	pf

IMPEDANCE DATA

FREQ	$Z_{IN}(\Omega)$	$Z_{CL}(\Omega)$
800 MHz	$4.1 + j3.8$	$6.3 + j6.5$
850 MHz	$3.4 + j4.2$	$6.5 + j5.5$
900 MHz	$2.3 + j4.0$	$4.8 + j5.2$

$P_{IN} = 1.5\text{W}$

$V_{CC} = 24\text{V}$

PACKAGE MECHANICAL DATA

PACKAGE STYLE M118

