GHz TECHNOLOGY
RF·MICROWAVE SILICON POWER TRANSISTORS

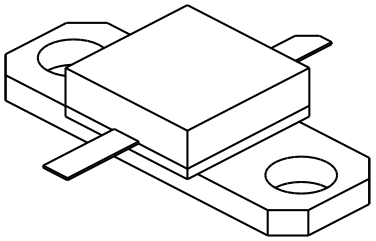
1014 - 12

12 Watt - 28 Volts, Class C
Microwave 1000 - 1400 MHz

GENERAL DESCRIPTION

The 1014-12 is a COMMON BASE transistor capable of providing 12 Watts of Class C, RF output power over the band 1000-1400 MHz. This transistor is designed for Microwave Broadband Class C amplifier applications. It includes input prematching and utilizes gold metalization and diffused ballasting to provide high reliability and supreme ruggedness.

CASE OUTLINE
55LT, STYLE 1



ABSOLUTE MAXIMUM RATINGS

Maximum Power Dissipation @ 25°C 39 Watts

Maximum Voltage and Current

BVces	Collector to Emitter Voltage	50 Volts
BVebo	Emitter to Base Voltage	3.5 Volts
Ic	Collector Current	5.0 A

Maximum Temperatures

Storage Temperature	- 65 to +150°C
Operating Junction Temperature	+200°C

ELECTRICAL CHARACTERISTICS @ 25 °C

SYMBOL	CHARACTERISTICS	TEST CONDITIONS	MIN	TYP	MAX	UNITS
Pout	Power Out	F = 1000-1400 MHz	12			Watt
Pin	Power Input	Vcc = 28 Volts			2.5	Watt
Pg	Power Gain	Pin = 2.5 Watts	6.8			dB
η_c	Collector Efficiency	As Above		40		%
$VSWR_1$	Load Mismatch Tolerance	F = 1.4 GHz, Pin = 2.5 W			30:1	

BVces	Collector to Emitter Breakdown	Ic = 5 mA	50			Volts
BVebo	Emitter to Base Breakdown	Ie = 5 mA	3.5			Volts
Icbo	Collector to Base Current	Vcb = 28 Volts			3.0	mA
h_{FE}	Current Gain	Vce = 5 V, Ic = 200mA	10			
Cob	Output Capacitance	F =1 MHz, Vcb = 28 V		12.0		pF
θ_{jc}	Thermal Resistance				4.5	°C/W

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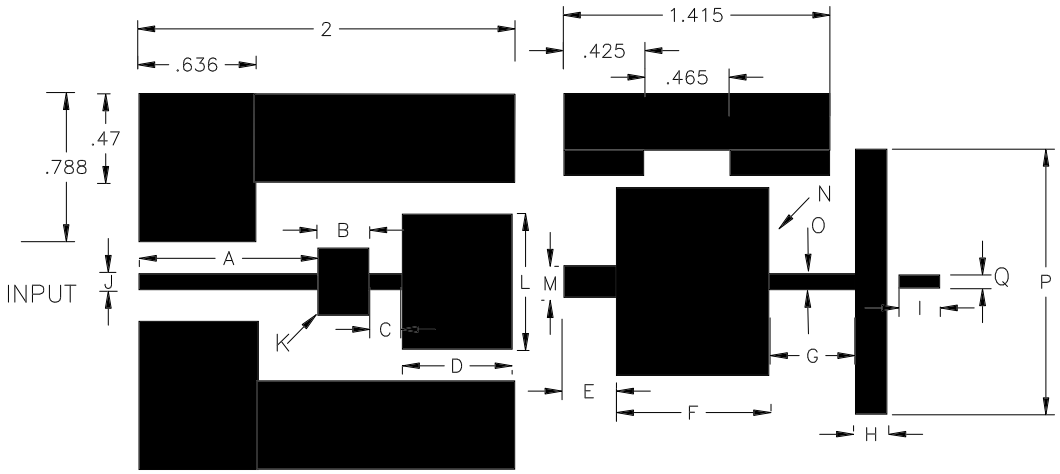
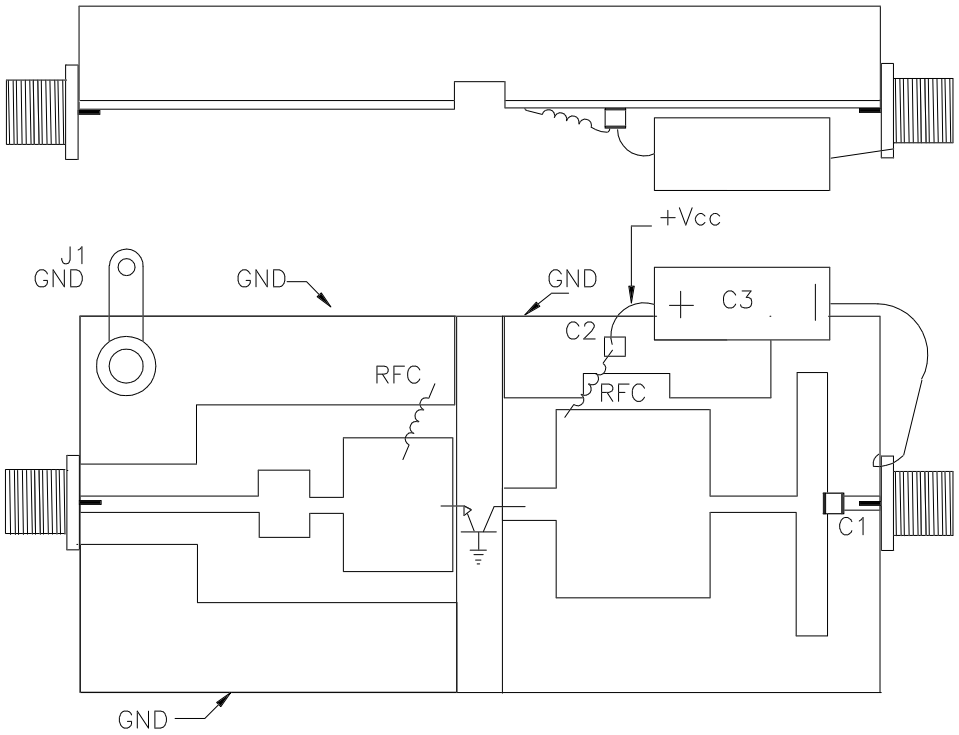
REVISIONS				
ZONE	REV	DESCRIPTION	DATE	APPROVED



DIM	INCHES
A	.960
B	.270
C	.180
D	.590
E	.280
F	.810
G	.460
H	.168
I	.217
J	.085
K	.360
L	.720
M	.170
N	1.00
O	.085
P	1.41
Q	.063

1014-12 TEST CIRCUIT



DIELECTRIC = 20 MIL THICK DUROID (Hardback) Er = 2.33
C1=150 pF chip
C2=18 pF chip
C3= 50uF, 50v dc, electrolytic
RFC= 6 turns, .1 in dia., #24 ga. enamel wire

	CAGE	DWG NO.	REV
GHz TECHNOLOGY	0PJR2	1014-12	2
		SCALE 1/1	SHEET