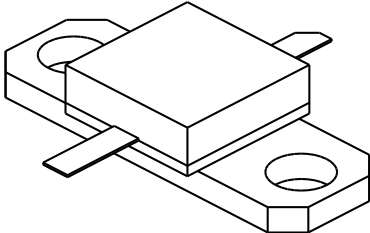


<p>GENERAL DESCRIPTION The 1014-12 is a COMMON BASE transistor capable of providing 12 Watts of Class C, RF output power over the band 1000-1400 MHz. This transistor is designed for Microwave Broadband Class C amplifier applications. It includes input prematching and utilizes gold metalization and diffused ballasting to provide high reliability and supreme ruggedness.</p>	<p>CASE OUTLINE 55LT, STYLE 1</p> 
<p>ABSOLUTE MAXIMUM RATINGS</p> <p>Maximum Power Dissipation @ 25°C 39 Watts</p> <p>Maximum Voltage and Current</p> <p>BVces Collector to Emitter Voltage 50 Volts BVebo Emitter to Base Voltage 3.5 Volts Ic Collector Current 5.0 A</p> <p>Maximum Temperatures</p> <p>Storage Temperature - 65 to +150°C Operating Junction Temperature +200°C</p>	

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		%
VSWR₁	Load Mismatch Tolerance	F = 1.4 GHz, Pin = 2.5 W			30:1	

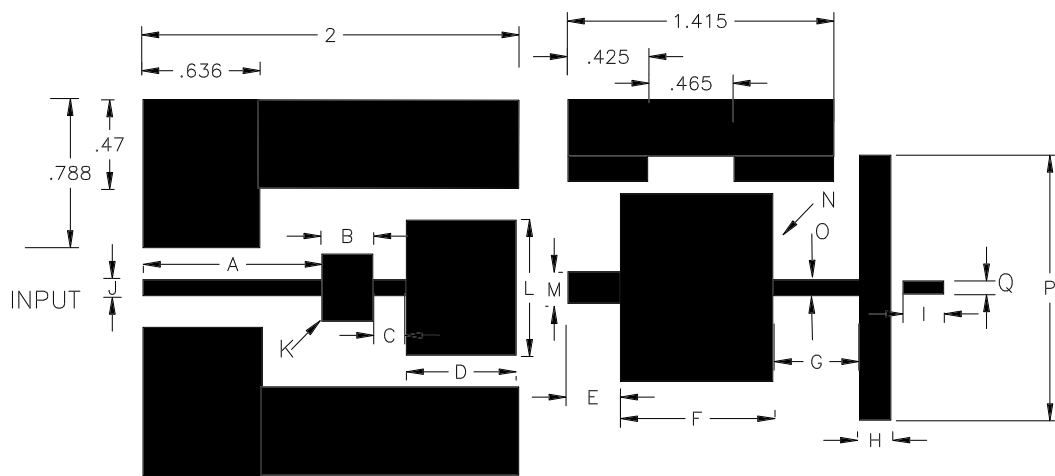
BVces	Collector to Emitter Breakdown	Ic = 5 mA	50			Volts
BVebo	Emitter to Base Breakdown	Ie = 5 mA	3.5			Volts
Icbo	Collector to Base Current	Vcb = 28 Volts			3.0	mA
h_{FE}	Current Gain	Vce = 5 V, Ic = 200mA	10			
Cob	Output Capacitance	F = 1 MHz, Vcb = 28 V		12.0		pF
θ_{jc}	Thermal Resistance				4.5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

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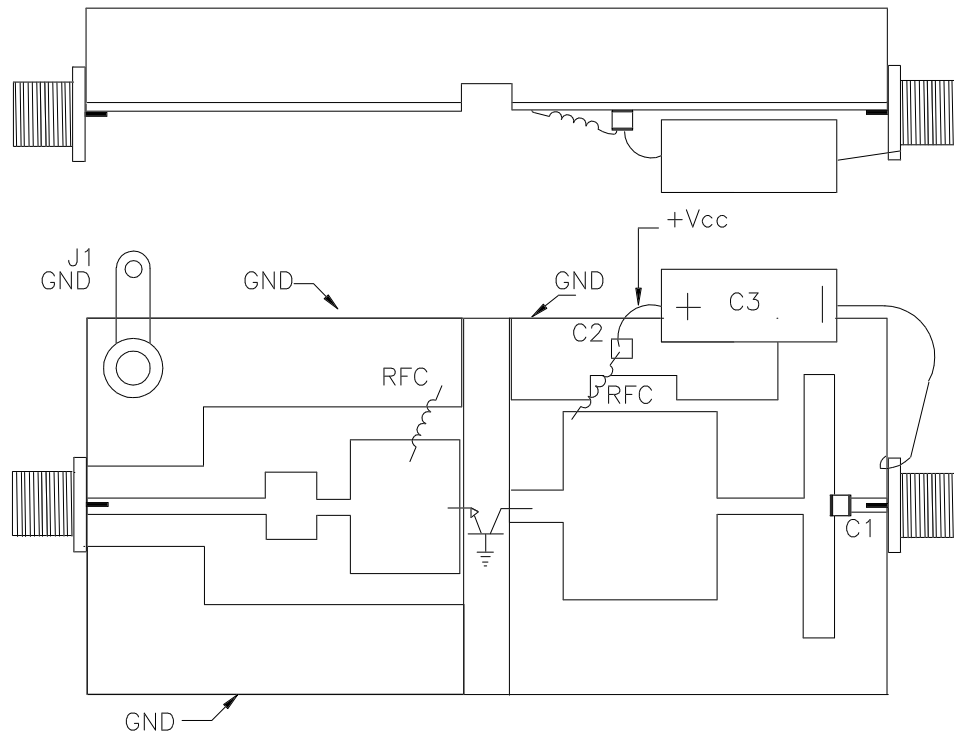
REVISIONS

ZONE	REV	DESCRIPTION	DATE	APPROVED
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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