

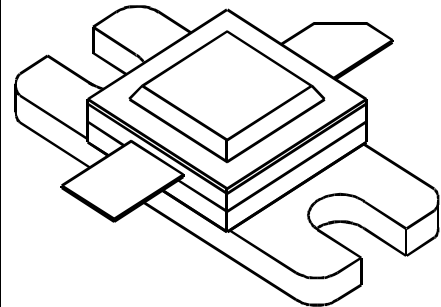
DMEG 250

250 Watts, 50 Volts, Pulsed
Avionics 960 - 1215 MHz

GENERAL DESCRIPTION

The DMEG 250 is a high power COMMON BASE bipolar transistor. It is designed for pulsed systems in the frequency band 960-1215 MHz. The device has gold thin-film metallization for proven highest MTTF. The transistor includes input and output prematch for broadband capability. Low thermal resistance package reduces junction temperature, extends life.

CASE OUTLINE 55AW, STYLE 1



ABSOLUTE MAXIMUM RATINGS

Maximum Power Dissipation @ 25°C ²	875 Watts
Maximum Voltage and Current	
BVces Collector to Base Voltage	55 Volts
BVebo Emitter to Base Voltage	4.0 Volts
Ic Collector Current	30 Amps
Maximum Temperatures	
Storage Temperature	- 65 to + 200°C
Operating Junction Temperature	+ 200°C

ELECTRICAL CHARACTERISTICS @ 25 °C

SYMBOL	CHARACTERISTICS	TEST CONDITIONS	MIN	TYP	MAX	UNITS
Pout	Power Out	F = 960-1215 MHz	250			Watts
Pin	Power Input	Vcc = 50 Volts			60	Watts
Pg	Power Gain	PW = 10 μsec	6.2			dB
η_c	Collector Efficiency	DF = 5%		35		%
VSWR	Load Mismatch Tolerance	F = 1090 MHz			5:1	

BVebo	Emitter to Base Breakdown	Ie = 20 mA	4.0			Volts
BVces	Collector to Emitter Breakdown	Ic = 25 mA	55			Volts
Cob	Capacitance Collector to Base	Vcb = 50 Volts				pF
h_{FE}	DC - Current Gain	Ic = 1 mA, Vce = 5 V	10			
θ_{jc}^2	Thermal Resistance				0.2	°C/W

Note 1: At rated output power and pulse conditions

2: At rated pulse conditions

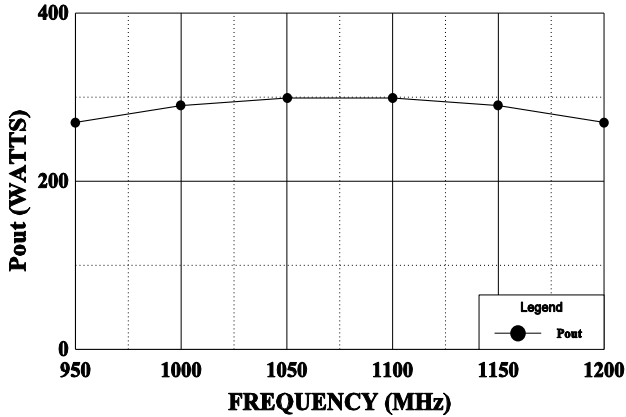
Issue A, July 1997

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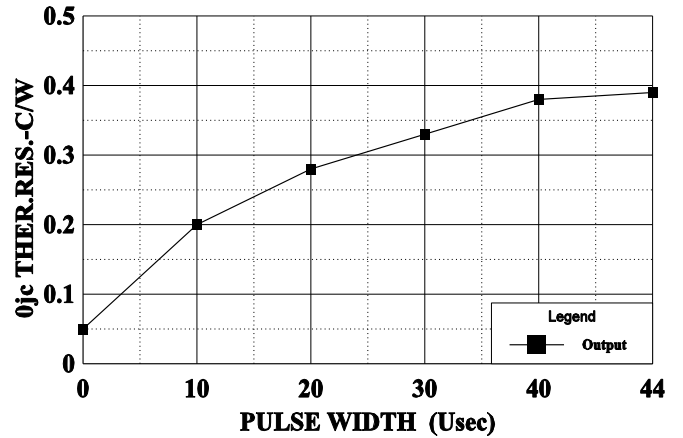
POWER OUTPUT (TYPICAL)

Vcc = 50 V, Pin = 60 W



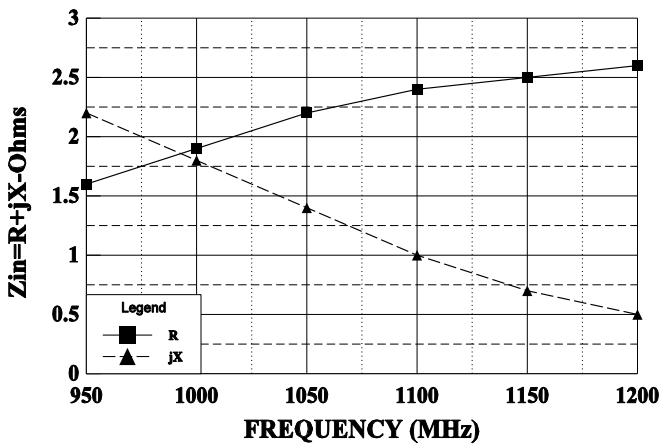
THERMAL RESISTANCE vs PULSE WIDTH

Vcc = 50 V, Tf = 30 C



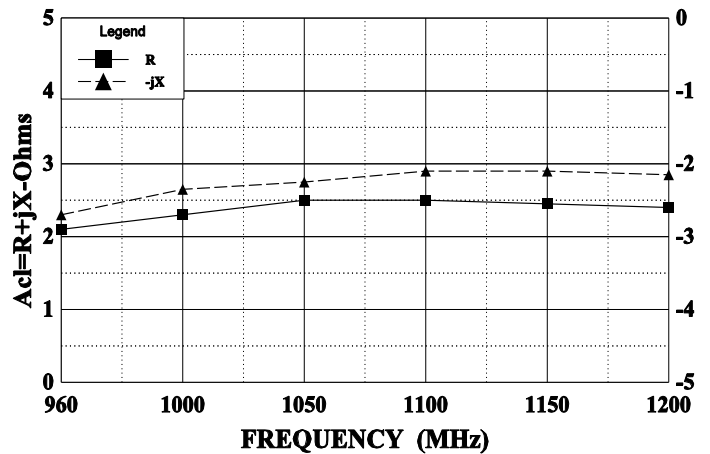
SERIES INPUT IMPEDANCE vs FREQUENCY

Vcc = 50 V, Po = 250 W



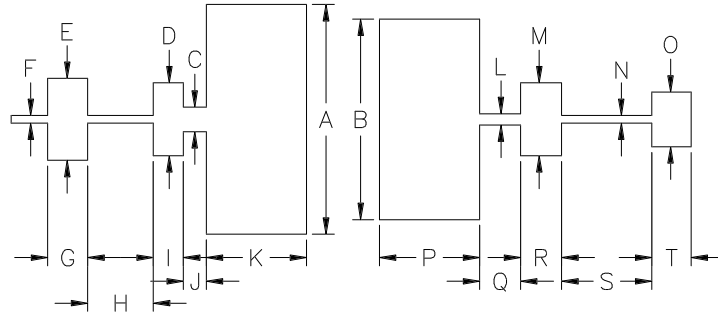
SERIES LOAD IMPEDANCE vs FREQUENCY

Vcc = 50 V, Po = 250 W



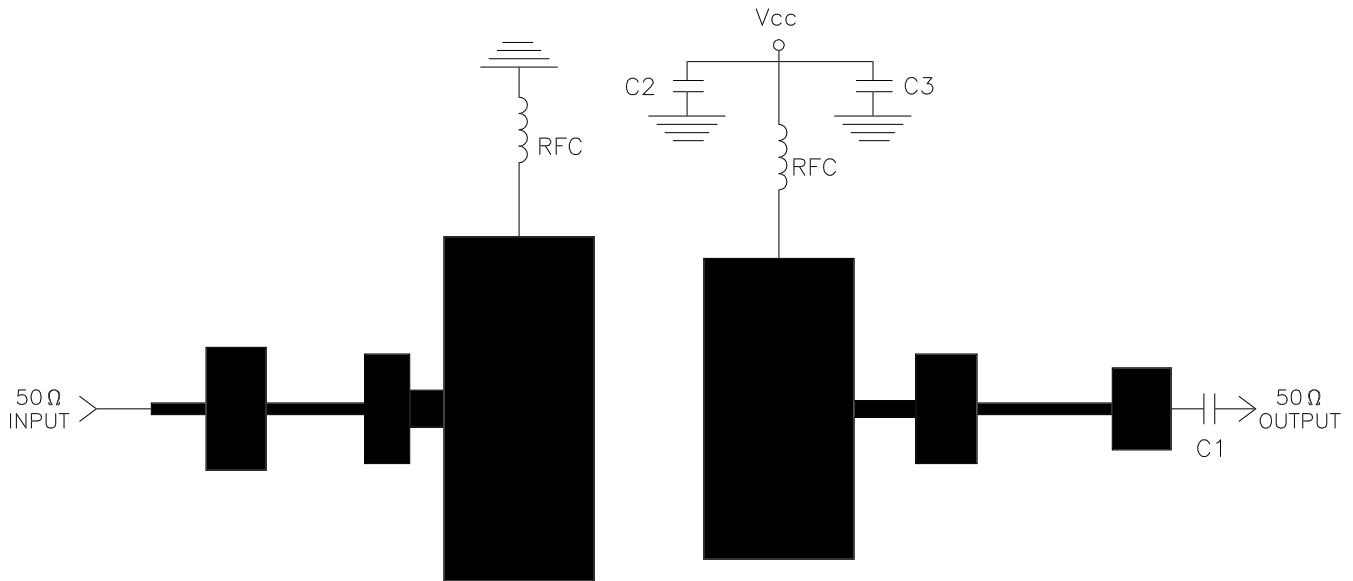
REVISIONS

ZONE	REV	DESCRIPTION	DATE	APPROVED
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DIM	INCHES
A	1.260
B	1.100
C	.135
D	.400
E	.450
F	.042
G	.220
H	.360
I	.165
J	.125
K	.550
L	.062
M	.400
N	.042
O	.230
P	.550
Q	.225
R	.225
S	.495
T	.215

960-1215 MHz BROADBAND TEST AMPLIFIER



PCB = .020" TFE, 2 oz. CU. Type "GT"
 C1, C2 = 82pf Chip
 C3 = 250 MFD



CHz TECHNOLOGY

CAGE OPJR2	DWG NO. DMEG 250	REV A
SCALE 1/1	SHEET	