

GENERAL DESCRIPTION

The TPR175 utilizes the most advanced design and process technologies. These features provide the most consistent and reliable chip and package combination designed, built and tested specifically for use in transponders/interrogators.

- * Gold thin-film metallization for proven highest MTTF
- * Surface passivation eliminates contamination
- * Eutectic die attach reduces junction temperature
- * Gold controlled-loop wire bonding for consistent performance
- * Low thermal-resistance packages

ABSOLUTE MAXIMUM RATINGS

Maximum Power Dissipation @ 25°C Case Temperature 388 W

Maximum Voltage and Current

BVces Collector to Emitter Voltage 55 V
 BVebo Emitter to Base Voltage 3.5 V
 Ic Collector Current 12.5 A

Maximum Temperatures

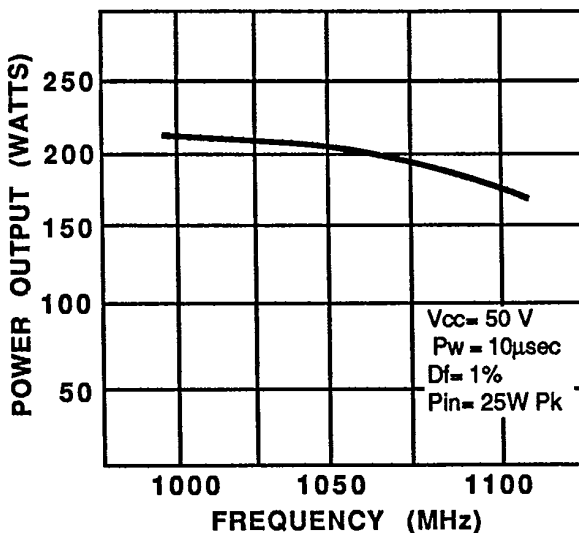
Storage Temperature -65 to +150 °C
 Operating Junction Temperature +200 °C

TPR175
175 WATTS - 50 VOLTS
1030/1090 MHz

AVIONICS

DIM	Millimeter	TOL	Inches	TOL	
L1 : C	A	17.78	.76	.70	.03
L2 : B	B	5.84	.13	.230	.005
L3 : E	C	45°	5°	45°	5°
	D	0.63R	.13	.025R	.005
	E	0.13	.02	.005	.001
	F	3.30 DIA	.13	.130 DIA	.005
	G	5.46	.13	.215	.005
	H	9.14	.13	.360	.005
	I	20.32	.13	.800	.005
	J	3.17	.13	.125	.005
	K	1.14	.13	.045	.010
	L	14.22	.13	.560	.005
	M	5.46	REF	.215	REF

POWER OUTPUT VS FREQUENCY (TYPICAL)



TYPICAL AMPLIFIER LINE UP
 Vcc= 50V
 Frequency Range= 1030-1090 MHz

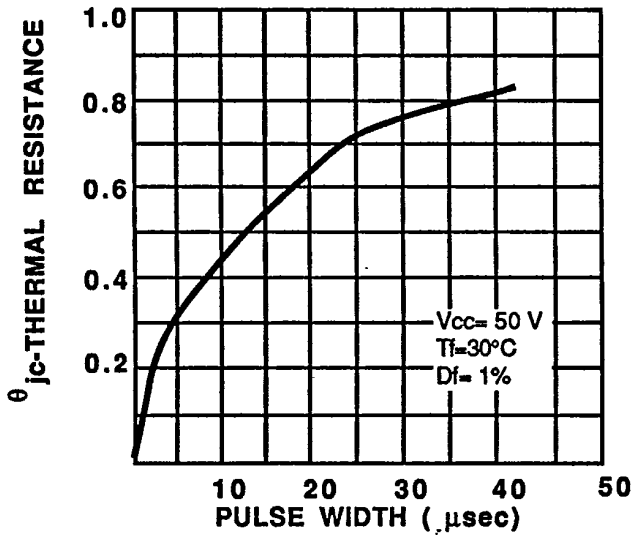
TPR175-2

ELECTRICAL CHARACTERISTICS¹

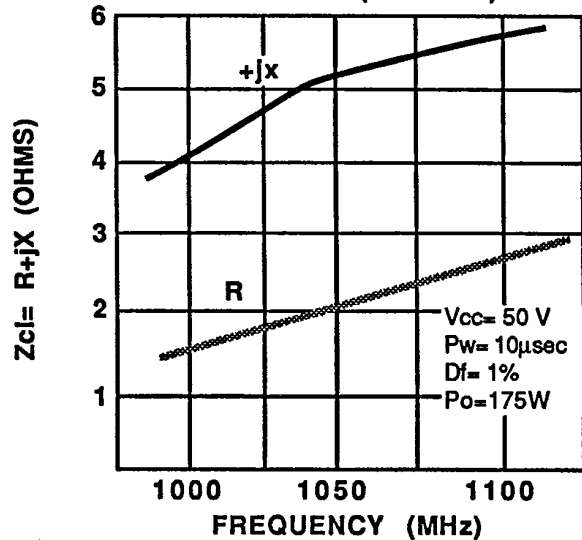
SYMBOL	CHARACTERISTICS	TEST CONDITIONS	MIN.	TYP.	MAX.	UNITS
P _{out}	Power Output	f= 1090 MHz V _{cc} = 50 Volts Pulse Width= 10μsec Duty Factor= 1%	175			Watts
P _{in}	Power Input				25	Watts
P _g	Power Gain			9.0		dB
η _c	Collector Efficiency			40		%
VSWR	Load Mismatch Tolerance				∞:1	
BV _{ebo}	Breakdown Voltage (Emitter to Base)	I _c = 0A, I _e = mA	3.5			Volts
BV _{ces}	Breakdown Voltage (Collector to Emitter)	V _{be} = 0A, I _c = 20mA	55			Volts
h _{FE}	DC-Current Gain	V _c = 5V, I _c = 100mA	10			
θ _{jc}	Thermal Resistance	10 μsec; 1%			0.45	°C/W

Note 1: T_c = +25°C unless otherwise specified

THERMAL RESISTANCE VS PULSE WIDTH



SERIES INPUT IMPEDANCE VS FREQUENCY (TYPICAL)

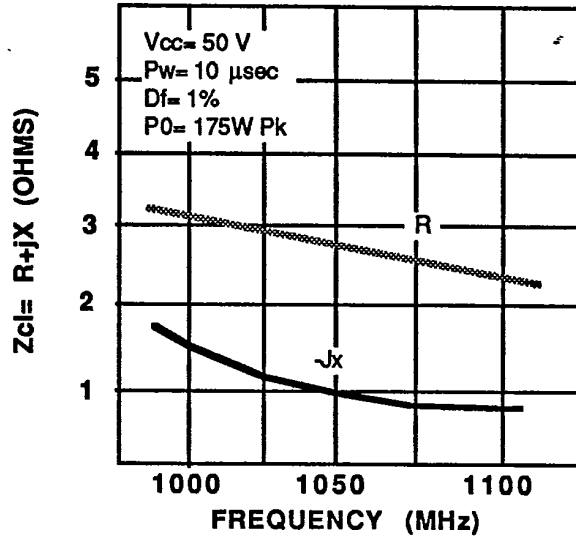


SPECIFICATIONS MAY BE SUBJECT TO CHANGE WITHOUT NOTICE

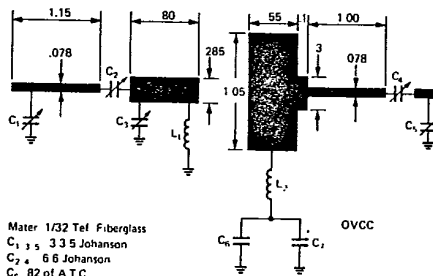
49

TPR175-3

**SERIES LOAD IMPEDANCE VS
FREQUENCY (TYPICAL)**



1030/1090 MHz • TEST AMPLIFIER



- Mater 1/32 Tef Fiberglass
- $C_1, C_5, C_9, C_{13}, C_{17}, C_{21}, C_{25}, C_{29}, C_{33}, C_{37}, C_{41}, C_{45}, C_{49}, C_{53}, C_{57}, C_{61}, C_{65}, C_{69}, C_{73}, C_{77}, C_{81}, C_{85}, C_{89}, C_{93}, C_{97}, C_{101}$ Johanson
- $C_2, C_6, C_{10}, C_{14}, C_{18}, C_{22}, C_{26}, C_{30}, C_{34}, C_{38}, C_{42}, C_{46}, C_{50}, C_{54}, C_{58}, C_{62}, C_{66}, C_{70}, C_{74}, C_{78}, C_{82}, C_{86}, C_{90}, C_{94}, C_{98}, C_{102}$ A T C
- $C_3, C_7, C_{11}, C_{15}, C_{19}, C_{23}, C_{27}, C_{31}, C_{35}, C_{39}, C_{43}, C_{47}, C_{51}, C_{55}, C_{59}, C_{63}, C_{67}, C_{71}, C_{75}, C_{79}, C_{83}, C_{87}, C_{91}, C_{95}, C_{99}, C_{103}$ Electrolytic
- $L_1, L_2, L_3, L_4, L_5, L_6, L_7, L_8, L_9, L_{10}, L_{11}, L_{12}, L_{13}, L_{14}, L_{15}, L_{16}, L_{17}, L_{18}, L_{19}, L_{20}, L_{21}, L_{22}, L_{23}, L_{24}, L_{25}, L_{26}, L_{27}, L_{28}, L_{29}, L_{30}, L_{31}, L_{32}, L_{33}, L_{34}, L_{35}, L_{36}, L_{37}, L_{38}, L_{39}, L_{40}, L_{41}, L_{42}, L_{43}, L_{44}, L_{45}, L_{46}, L_{47}, L_{48}, L_{49}, L_{50}, L_{51}, L_{52}, L_{53}, L_{54}, L_{55}, L_{56}, L_{57}, L_{58}, L_{59}, L_{60}, L_{61}, L_{62}, L_{63}, L_{64}, L_{65}, L_{66}, L_{67}, L_{68}, L_{69}, L_{70}, L_{71}, L_{72}, L_{73}, L_{74}, L_{75}, L_{76}, L_{77}, L_{78}, L_{79}, L_{80}, L_{81}, L_{82}, L_{83}, L_{84}, L_{85}, L_{86}, L_{87}, L_{88}, L_{89}, L_{90}, L_{91}, L_{92}, L_{93}, L_{94}, L_{95}, L_{96}, L_{97}, L_{98}, L_{99}, L_{100}$ long

58

This datasheet has been downloaded from:

www.DatasheetCatalog.com

Datasheets for electronic components.