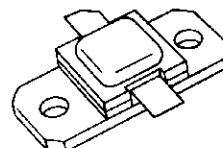


RF & MICROWAVE TRANSISTORS SPECIALITY AVIONICS/JTIDS APPLICATIONS

- REFRACTORY/GOLD METALLIZATION
- EMITTER SITE BALLASTED
- 15:1 VSWR CAPABILITY
- LOW RF THERMAL RESISTANCE
- INPUT/OUTPUT MATCHING
- OVERLAY GEOMETRY
- METAL/CERAMIC HERMETIC PACKAGE
- $P_{OUT} = 30 \text{ W MIN. WITH } 7.8 \text{ dB GAIN}$



.400 x .400 2LFL (S036)
hermetically sealed

ORDER CODE
AM80912-030

BRANDING
80912-30

DESCRIPTION

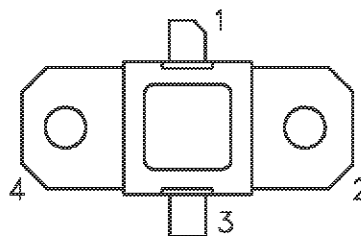
The AM80912-030 device is a high power Class C transistor specifically designed for JTIDS pulsed output and driver applications.

This device is capable of operation over a wide range of pulse widths, duty cycles and temperatures and is capable of withstanding 15:1 output VSWR at rated RF conditions.

Low RF thermal resistance and computerized automatic wire bonding techniques ensure high reliability and product consistency.

The AM80912-030 is supplied in the hermetic metal/ceramic package with internal input matching structures.

PIN CONNECTION



- | | |
|--------------|------------|
| 1. Collector | 3. Emitter |
| 2. Base | 4. Base |

ABSOLUTE MAXIMUM RATINGS ($T_{case} = 25^{\circ}\text{C}$)

Symbol	Parameter	Value	Unit
P_{DISS}	Power Dissipation* ($T_C \leq 85^{\circ}\text{C}$)	75	W
I_C	Collector Current*	3.5	A
V_{CC}	Collector-Supply Voltage*	40	V
T_J	Junction Temperature (Pulsed RF Operation)	250	$^{\circ}\text{C}$
T_{STG}	Storage Temperature	- 65 to +200	$^{\circ}\text{C}$

THERMAL DATA

$R_{TH(j-c)}$	Junction-Case Thermal Resistance	2.2	$^{\circ}\text{C/W}$
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*Applies only to rated RF amplifier operation.

AM80912-030

ELECTRICAL SPECIFICATIONS ($T_{\text{case}} = 25^{\circ}\text{C}$)

STATIC

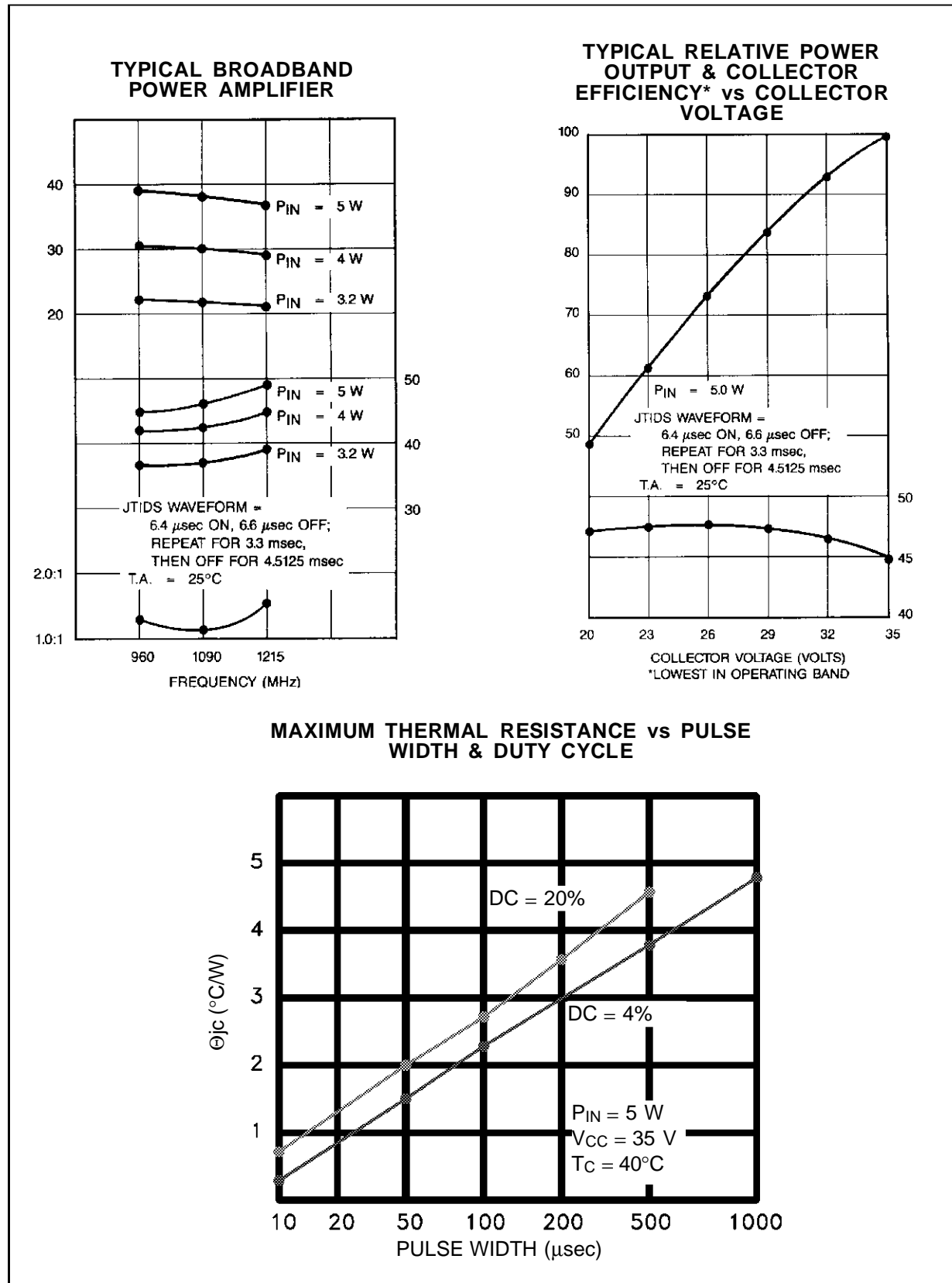
Symbol	Test Conditions	Value			Unit
		Min.	Typ.	Max.	
BV_{CBO}	$I_{\text{C}} = 10\text{mA}$	55	—	—	V
BV_{EBO}	$I_{\text{E}} = 1\text{mA}$	3.5	—	—	V
BV_{CER}	$I_{\text{C}} = 20\text{mA}$ $R_{\text{BE}} = 10\Omega$	55	—	—	V
I_{CES}	$V_{\text{CE}} = 35\text{V}$	—	—	5.0	mA
h_{FE}	$V_{\text{CE}} = 5\text{V}$ $I_{\text{C}} = 1.0\text{A}$	15	—	150	—

DYNAMIC

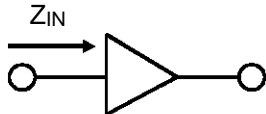
Symbol	Test Conditions	Value			Unit
		Min.	Typ.	Max.	
P_{OUT}	$f = 960 - 1215\text{MHz}$ $P_{\text{IN}} = 5.0\text{W}$ $V_{\text{CC}} = +35\text{V}$	30	36	—	W
η_{C}	$f = 960 - 1215\text{MHz}$ $P_{\text{IN}} = 5.0\text{W}$ $V_{\text{CC}} = +35\text{V}$	40	45	—	%
G_{P}	$f = 960 - 1215\text{MHz}$ $P_{\text{IN}} = 5.0\text{W}$ $V_{\text{CC}} = +35\text{V}$	7.8	8.6	—	dB

Note: Pulse format: 6.4 μs on 6.6 μs off, repeat for 3.3 ms, then off for 4.5125 ms.
 Duty Cycle: Burst 49.2%, overall 20.8%

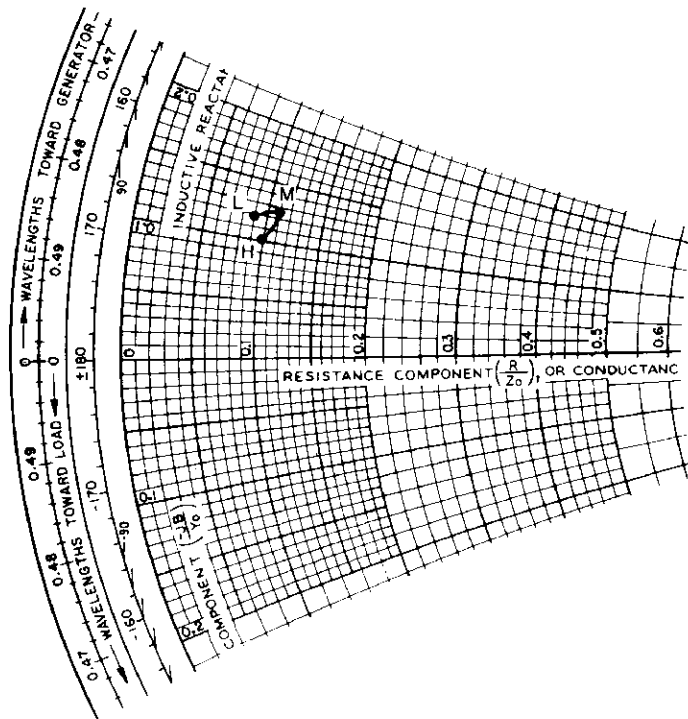
TYPICAL PERFORMANCE



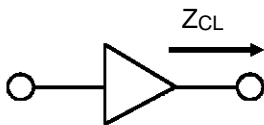
IMPEDANCE DATA

TYPICAL INPUT
IMPEDANCE

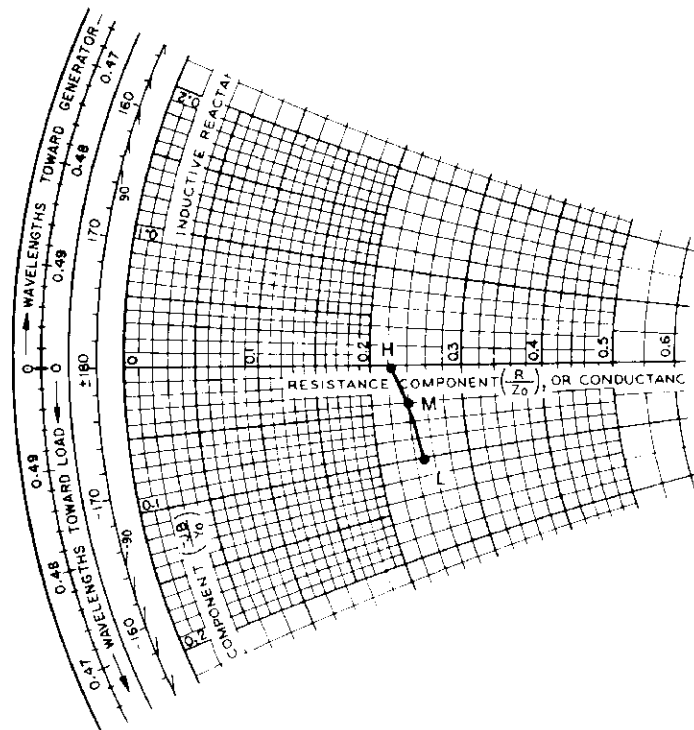
$P_{IN} = 5W$
 $V_{CC} = +35V$
 $Z_0^* = 50\Omega$



FREQ.	$Z_{IN} (\Omega)$	$Z_{CL} (\Omega)$
L = 960 MHz	$4.5 + j 6.0$	$11.0 - j 0.5$
M = 1090 MHz	$5.5 + j 6.3$	$12.0 - j 2.0$
H = 1215 MHz	$5.0 + j 5.0$	$12.5 - j 5.0$

TYPICAL COLLECTOR
LOAD IMPEDANCE

$P_{IN} = 5W$
 $V_{CC} = +35V$
 $Z_0^* = 50\Omega$



*Normalized Impedance

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