

DESCRIPTION

The high power HVV0912-450 device is a high voltage silicon enhancement mode RF transistor designed for L-band pulsed avionics applications operating over the frequency range of 960 MHz and 1215 MHz.

FEATURES

- High Power Gain
- Excellent Ruggedness
- 50V Supply Voltage

ABSOLUTE MAXIMUM RATINGS

Symbol	Parameter	Value	Unit
V _{DSS}	Drain-Source Voltage	95	V
V _{GS}	Gate-Source Voltage	-10 to +10	V
I _{DSX}	Drain Current	40	A
P _D ²	Power Dissipation	1500	W
T _S	Storage Temperature	-65 to +150	°C
T _J	Junction Temperature	200	°C

THERMAL CHARACTERISTICS

Symbol	Parameter	Max	Unit
θ_{JC}^1	Thermal Resistance	0.05	°C/W

PACKAGE



The device utilizes a RoHS compliant flanged package with a ceramic lid. The HV800 package style is qualified for gross leak test – MIL-STD-883, Method 1014.

RUGGEDNESS

The HVV0912-450 device is capable of withstanding an output load mismatch corresponding to a 20:1 VSWR at rated output power over all phase angles and operating voltage across the frequency band of operation.

Symbol	Parameter	Test Condition	Max	Units
LMT ¹	Load Mismatch Tolerance	P _{OUT} = 450W F = 960 MHz	20:1	VSWR

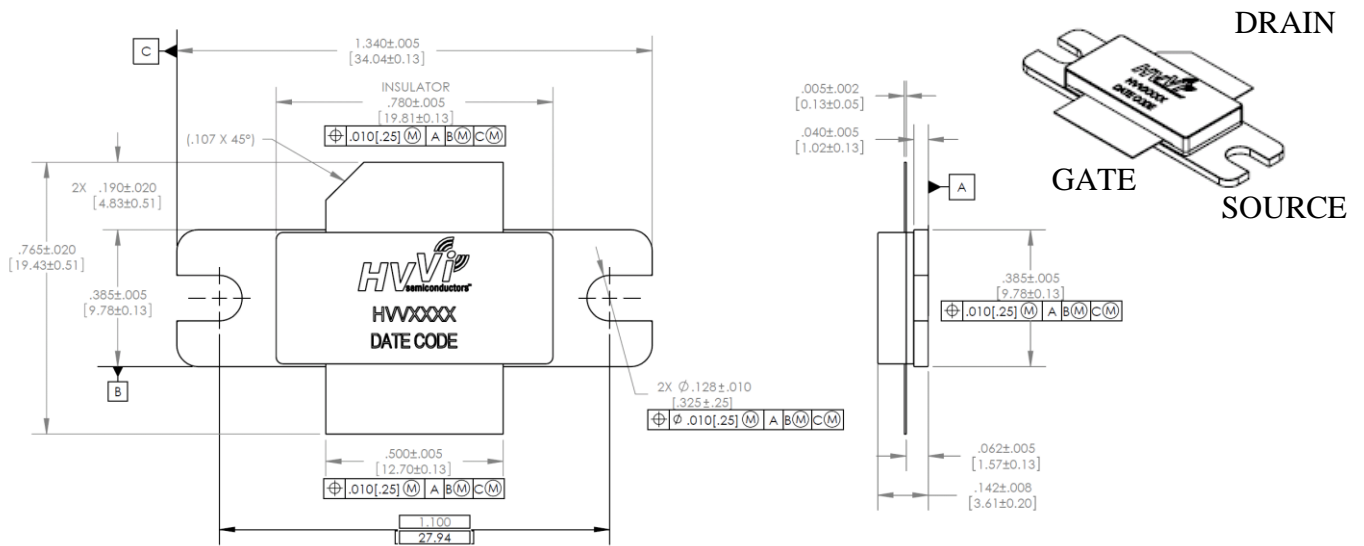
ELECTRICAL CHARACTERISTICS

Symbol	Parameter	Conditions	Typ	Units
V _{BR(DSS)}	Drain-Source Breakdown	V _{GS} =0V, I _D =10mA	102	V
I _{DSS}	Drain Leakage Current	V _{GS} =0V, V _{DS} =50V	<500	μ A
I _{GSS}	Gate Leakage Current	V _{GS} =5V, V _{DS} =0V	<10	μ A
G _p ¹	Power Gain	P _{OUT} =450W, F=960 MHz	16.0	dB
IRL ¹	Input Return Loss	P _{OUT} =450W, F=960 MHz	7.5	dB
η_D^1	Drain Efficiency	P _{OUT} =450W, F=960 MHz	50	%
PD ¹	Pulse Droop	P _{OUT} =450W, F=960 MHz	<0.25	dB

¹Under Pulse Conditions: Pulse Width = 10 μ s, Pulse Period = 100 μ s at V_{DD} = 50V, I_{DQ} = 100mA

²Rated at T_{CASE} = 25°C

PACKAGE DIMENSIONS



Note: Drawing is not actual size.

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