

HVV1214-075 PRODUCT OVERVIEW

L-Band Radar Pulsed Power Transistor
1200-1400 MHz, 200µs Pulse, 10% Duty
for Ground Based Radar Applications

DESCRIPTION

The high power HVV1214-075 device is a high voltage silicon enhancement mode RF transistor designed for L-Band pulsed radar applications operating over the frequency range from 1.2GHz to 1.4GHz.

FEATURES

- High Power Gain
- Excellent Ruggedness
- 48V Supply Voltage

ABSOLUTE MAXIMUM RATINGS

Symbol	Parameter	Value	Unit
V _{DSS}	Drain-Source Voltage	95	V
V _{GS}	Gate-Source Voltage	10	V
I _{DSX}	Drain Current	8	A
P _D ²	Power Dissipation	250	W
T _S	Storage Temperature	-65 to +200	°C
T _J	Junction Temperature	200	°C

THERMAL CHARACTERISTICS

Symbol	Parameter	Max	Unit
θ _{JC} ¹	Thermal Resistance	0.70	°C/W

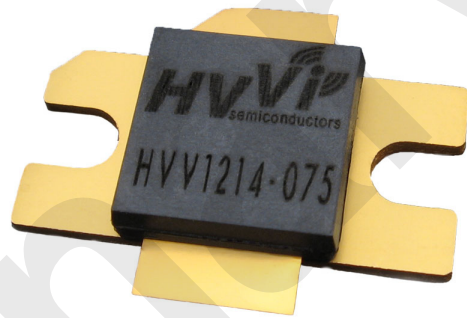
ELECTRICAL CHARACTERISTICS

Symbol	Parameter	Conditions	Typ	Units
V _{BR(DSS)}	Drain-Source Breakdown	V _{GS} =0V, I _D =3mA	102	V
I _{DSS}	Drain Leakage Current	V _{GS} =0V, V _{DS} =48V	<80	µA
I _{GSS}	Gate Leakage Current	V _{GS} =5V, V _{DS} =0V	<1	µA
G _p ¹	Power Gain	P _{OUT} =75W, F=1200MHz, 1400MHz	21	dB
IRL ¹	Input Return Loss	P _{OUT} =75W, F=1200MHz, 1400MHz	9	dB
η _p ¹	Drain Efficiency	P _{OUT} =75W, F=1200MHz, 1400MHz	44	%
PD ¹	Pulse Droop	P _{OUT} =75W, F=1200MHz, 1400MHz	<0.6	dB

¹Under Pulse Conditions: Pulse Width = 200µsec, Pulse Duty Cycle = 10% at V_{DD} = 48V, I_{DQ} = 50mA

²Rated at T_{CASE} = 25°C

PACKAGE



The device resides in a two-lead metal flanged package with liquid crystal polymer lid. The HV400 package style is qualified for gross leak test – MIL-STD-750D, Method 1071.6, Test Condition C.

RUGGEDNESS

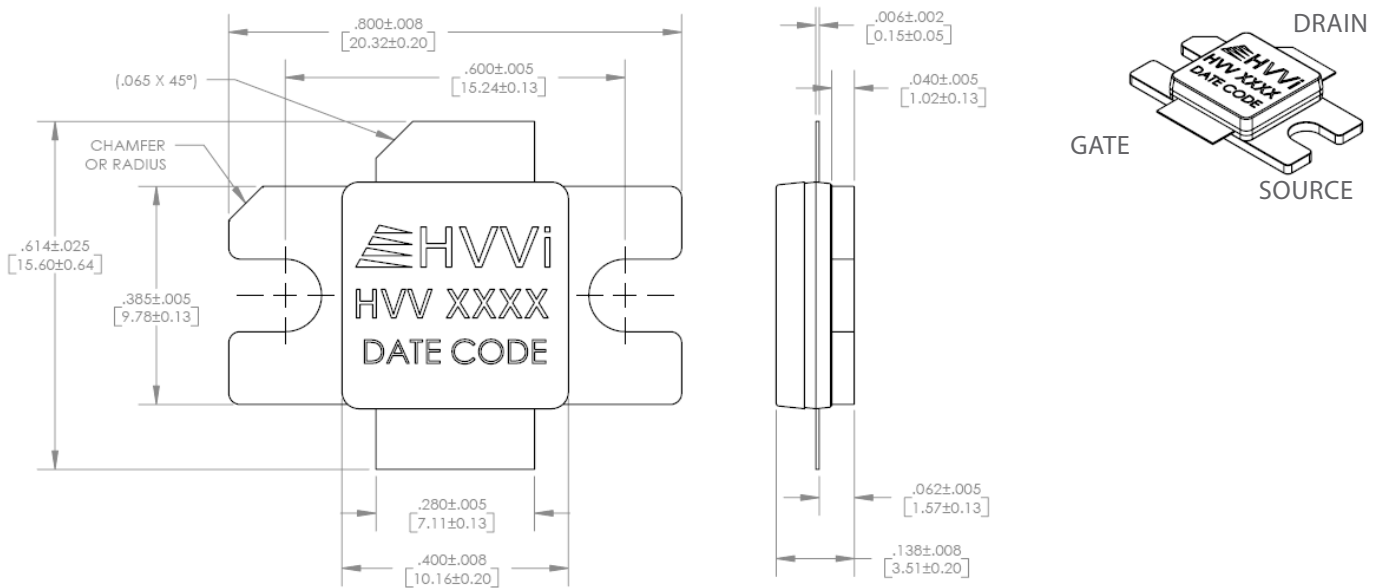
The HVV1214-075 device is capable of withstanding an output load mismatch corresponding to a 20:1 VSWR over all phase angles and rated output power and operating voltage across the frequency band of operation.

Symbol	Parameter	Test Condition	Max	Units
LMT ¹	Load Mismatch Tolerance	P _{OUT} = 75W F = 1400MHz	20:1	VSWR

HVVi1214-075 PRODUCT OVERVIEW

L-Band Radar Pulsed Power Transistor
 1200-1400 MHz, 200µs Pulse, 10% Duty
 for Ground Based Radar Applications

PACKAGE DIMENSIONS



Note: Drawing is not actual size.

HVVi Semiconductors, Inc. (HVVi) reserves the right to make changes to information published in this document at any time and without notice. This document supersedes and replaces all information supplied prior to the publication hereof. Information in this document is believed to be accurate and reliable. However, HVVi does not give any representations or warranties, either express or implied, as to the accuracy or completeness of such information and shall have no liability for the consequences of use of such information. Use of HVVi products as critical components in life support systems is not authorized. No licenses, either express or implied, are conveyed under any HVVi intellectual property rights, including any patent rights. The HVVi name and logo are trademarks of HVVi Semiconductors, Inc.