

DESCRIPTION

The high power HVV1214-25 device is a high voltage silicon enhancement mode RF transistor designed for L-Band pulsed radar applications operating over the frequency range from 1.2 GHz to 1.4 GHz.

FEATURES

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

ABSOLUTE MAXIMUM RATINGS

Symbol	Parameter	Value	Unit
V _{DSS}	Drain-Source Voltage	105	V
V _{GS}	Gate-Source Voltage	10	V
I _{DSX}	Drain Current	2	A
P _D ²	Power Dissipation	116	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	1.5	°C/W

ELECTRICAL CHARACTERISTICS

Symbol	Parameter	Conditions	Typ	Units
V _{BR(DSS)}	Drain-Source Breakdown	V _{GS} =0V, I _D =1mA	110	V
I _{DSS}	Drain Leakage Current	V _{GS} =0V, V _{DS} =48V	<10	µA
I _{GSS}	Gate Leakage Current	V _{GS} =5V, V _{DS} =0V	<1	µA
G _p ¹	Power Gain	P _{OUT} =25W, F=1200,1400MHz	17.5	dB
IRL ¹	Input Return Loss	P _{OUT} =25W, F=1200,1400MHz	8	dB
η _D ¹	Drain Efficiency	P _{OUT} =25W, F=1200,1400MHz	49	%
PD ¹	Pulse Droop	P _{OUT} =25W, F=1200,1400MHz	<0.2	dB

- 1.) Under Pulse Conditions: Pulse Width = 200 µsec, Pulse Duty Cycle = 10% at V_{DD} = 48V, I_{DQ} = 15mA
- 2.) Rated at T_{CASE} = 25°C

PACKAGE



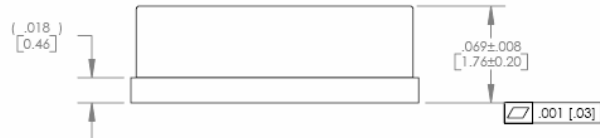
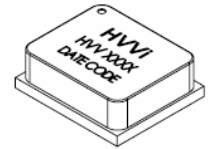
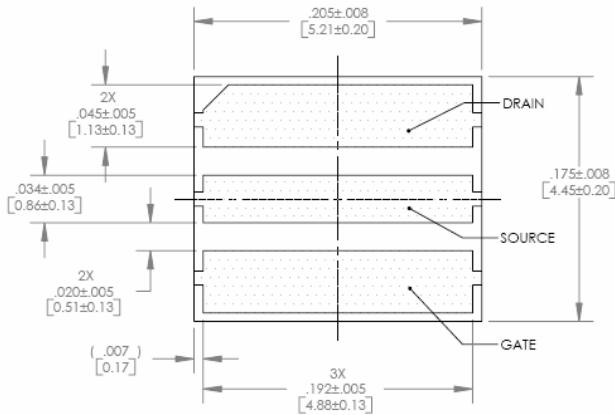
The device resides in a Surface Mount Transistor Package with a ceramic lid. The SMT package style is qualified for gross leak test - MIL-STD-750D, Method 1071.6, Test Condition C.

RUGGEDNESS

The HVV1214-25 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} = 25W F = 1400 MHz	20:1	VSWR

PACKAGE DIMENSIONS



NOTES:
1. HATCHED AREA WAS METALIZED AND PLATED.

Note: Drawing is not actual size.

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