

DESCRIPTION

The high power HVV1214-025 device is a high voltage silicon enhancement mode RF transistor designed for L-band pulsed radar applications operating over the frequency range of 1200 MHz and 1400 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, 10	V
I _{DSX}	Drain Current	2	A
P _D ²	Power Dissipation	116	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	1.5	°C/W

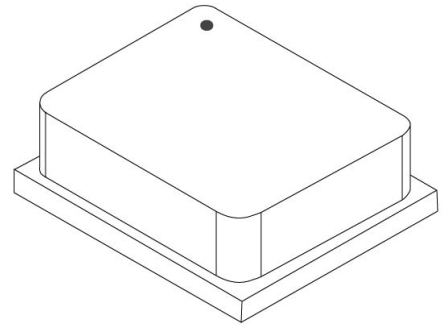
ELECTRICAL CHARACTERISTICS

Symbol	Parameter	Conditions	Min	Typ	Max	Units
V _{BR(DSS)}	Drain-Source Breakdown	V _{GS} =0V, I _D =2mA	95	102		V
I _{DSS}	Drain Leakage Current	V _{GS} =0V, V _{DS} =50V		15	50	µA
I _{GSS}	Gate Leakage Current	V _{GS} =5V, V _{DS} =0V		2	10	µA
G _P ¹	Power Gain	P _{OUT} =25W, F=1300 MHz	19	20.5		dB
IRL ¹	Input Return Loss	P _{OUT} =25W, F=1300 MHz		-12	-8	dB
η _D ¹	Drain Efficiency	P _{OUT} =25W, F=1300 MHz	40	42		%
PD ¹	Pulse Droop	P _{OUT} =25W, F=1300 MHz		0.3	0.6	dB
V _{GS(Q)}	Gate Quiescent Voltage	V _{DD} =50V, I _{DQ} =15mA	1.0	1.4	1.7	V
V _{TH}	Threshold Voltage	V _{DD} =5V, I _D =300µA	0.7	1.2	1.7	V

¹Under Pulse Conditions: Pulse Width = 200µs, Pulse Duty Cycle = 10% at V_{DD} = 50V, I_{DQ} = 15mA

²Rated at T_{CASE} = 25°C

PACKAGE



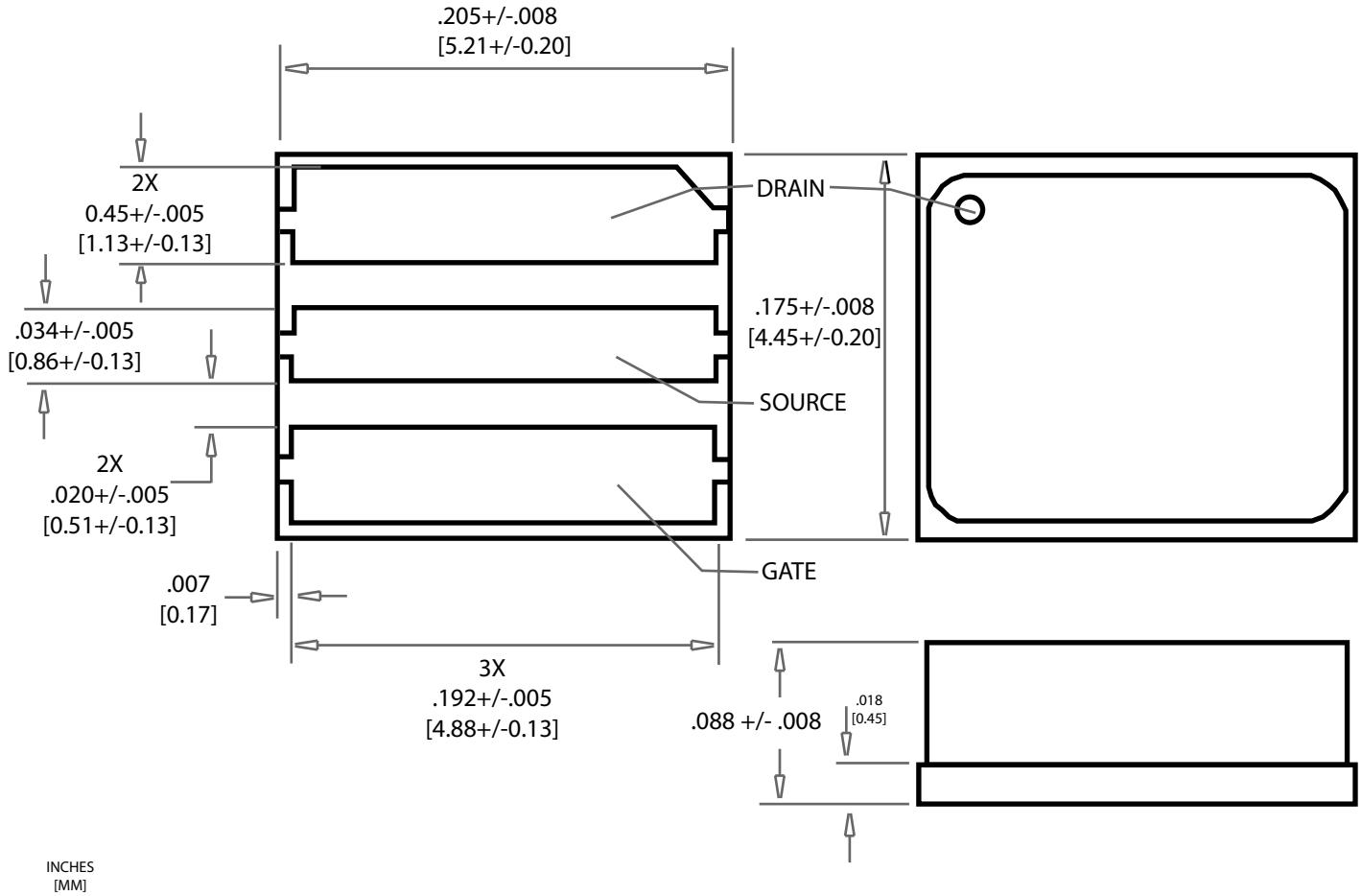
The device resides in the SM200 surface mount package with a ceramic lid.

RUGGEDNESS

The HVV1214-025 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} = 25W F = 1300 MHz	20:1	VSWR

PACKAGE DIMENSIONS



Note: Drawing is not actual size.

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