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HVV1011-035 PRODUCT OVERVIEW

L-Band Avionics Pulsed Power Transistor
1030-1090MHz, 50µs Pulse, 5% Duty
for TCAS and Mode-S Applications

DESCRIPTION

The high power HVV1011-035 device is a high voltage silicon enhancement mode RF transistor designed for L-Band pulsed avionics applications operating over the frequency range from 1030MHz to 1090MHz.

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	2	A
P _D ^{1,2}	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 =2mA	102	V
I _{DSS}	Drain Leakage Current	V _{GS} =0V, V _{DS} =48V	<25	µA
I _{GSS}	Gate Leakage Current	V _{GS} =5V, V _{DS} =0V	<1	µA
G _p ¹	Power Gain	P _{OUT} =35W, F=1060MHz	20	dB
IRL ¹	Input Return Loss	P _{OUT} =35W, F=1060MHz	8	dB
θ _{JC} ¹	Drain Efficiency	P _{OUT} =35W, F=1060MHz	52	%
PD ¹	Pulse Droop	P _{OUT} =35W, F=1060MHz	<0.2	dB

¹Under Pulse Conditions: Pulse Width = 50 µsec, Pulse Duty Cycle = 5% at V_{DD} = 48V, I_{DQ} = 15mA

²Rated at TCASE = 25°C

PACKAGE



The device resides in a Surface Mount Package with a ceramic lid. The SM200 package style is qualified for gross leak test – MIL-STD-883, Method 1014.

RUGGEDNESS

The HVV1011-035 device is capable of withstanding an output load mismatch corresponding to a 20:1 VSWR at 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	F = 1060MHz	20:1	VSWR

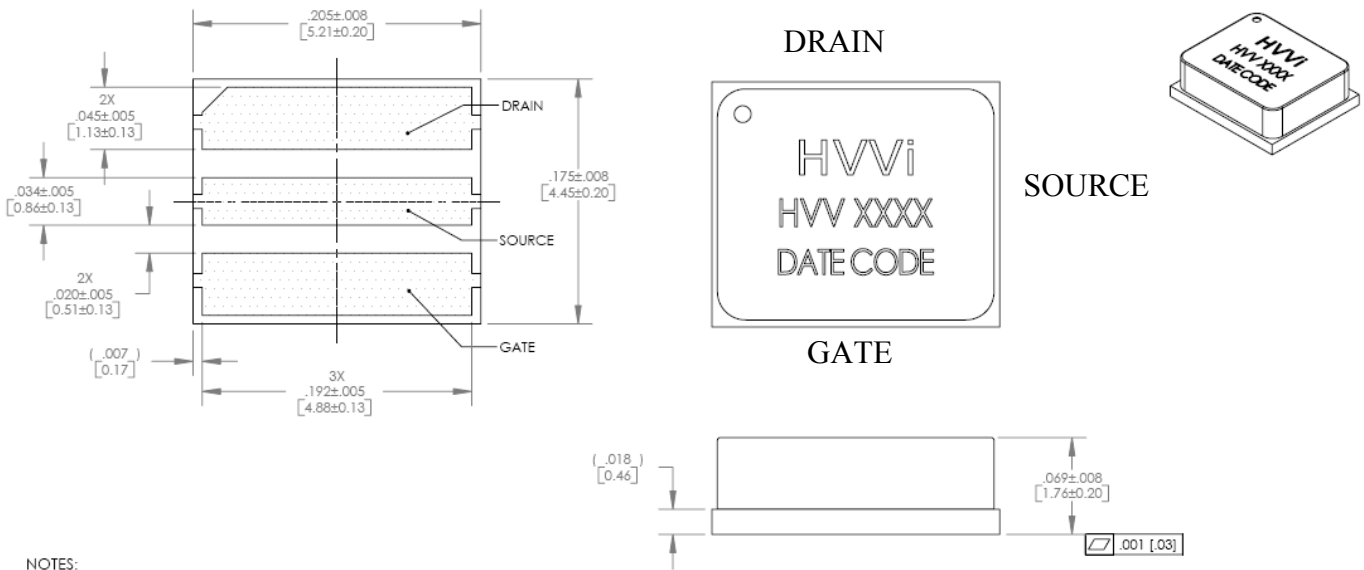


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PACKAGE DIMENSIONS



NOTES:
1. HATCHED AREA WAS METALIZED AND PLATED.

Note: Drawing is not actual size.

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