

DESCRIPTION

The high power HVV0405-300 device is a high voltage silicon enhancement mode RF transistor designed for UHF-band pulsed applications operating at frequencies between 400 MHz and 450 MHz.

FEATURES

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

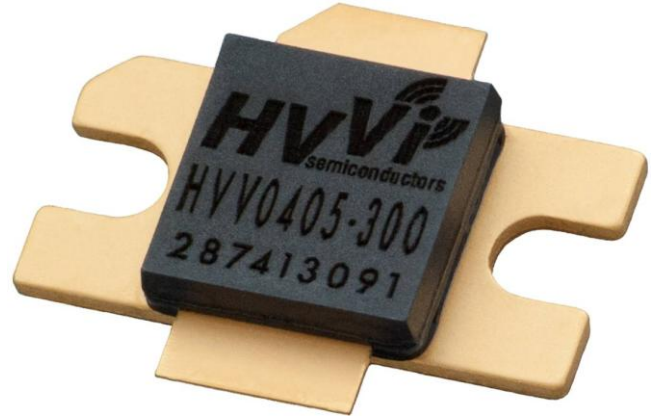
ABSOLUTE MAXIMUM RATINGS

Symbol	Parameter	Value	Unit
V_{DSS}	Drain-Source Voltage	95	V
V_{GS}	Gate-Source Voltage	-10 to 10	V
I_{DSX}	Drain Current	20	A
P_D^2	Power Dissipation	486	W
T_s	Storage Temperature	-40 to +150	°C
T_j	Junction Temperature	200	°C

THERMAL CHARACTERISTICS

Symbol	Parameter	Max	Unit
θ_{JC}^1	Thermal Resistance	0.36	°C/W

PACKAGE



The device utilizes a two-lead metal flanged package with a liquid crystal polymer lid. The HV400 package style is qualified for gross leak test – MIL-STD-883, Method 1014.

RUGGEDNESS

The HVV0405-300 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	$P_{in} = 2W$ $F = 450 \text{ MHz}$	20:1	VSWR

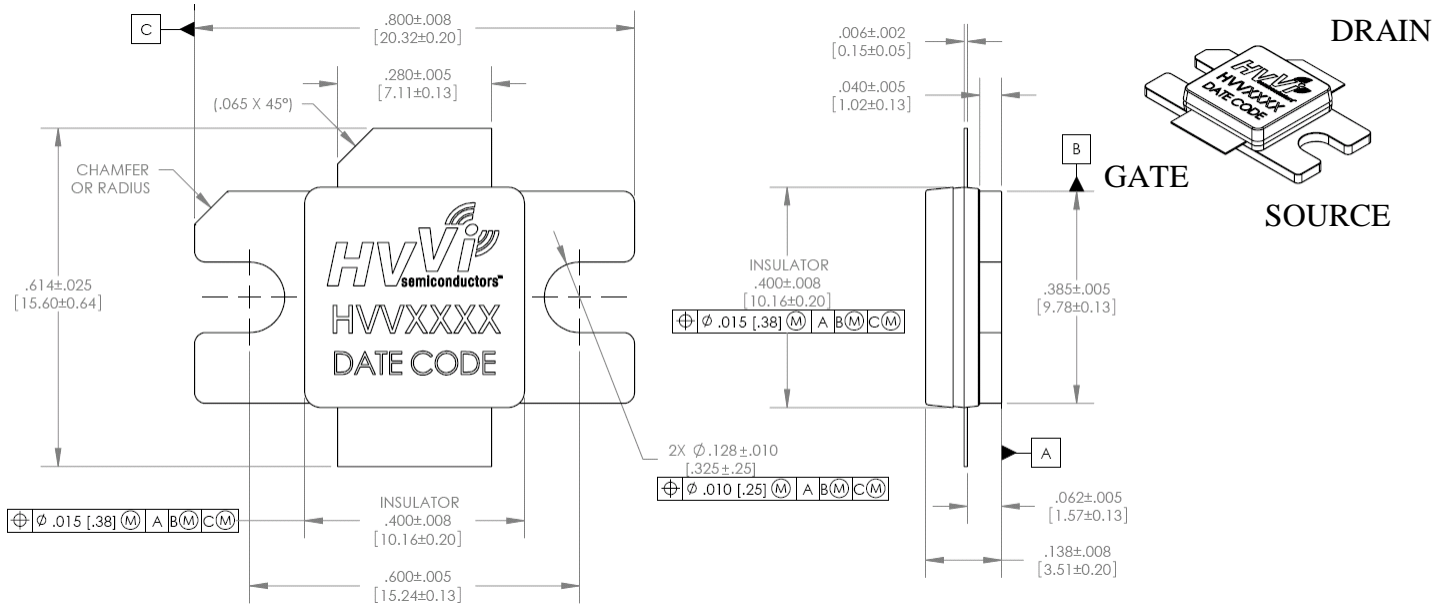
ELECTRICAL CHARACTERISTICS

Symbol	Parameter	Conditions	Typ	Units
$V_{BR(DSS)}$	Drain-Source Breakdown	$V_{GS} = 0V, I_D = 2mA$	102	V
I_{DSS}	Drain Leakage Current	$V_{GS} = 0V, V_{DS} = 50V$	<100	μA
I_{GSS}	Gate Leakage Current	$V_{GS} = 5V, V_{DS} = 0V$	<10	μA
G_p^1	Power Gain	$P_{in} = 2W, F = 400, 450 \text{ MHz}$	23.5	dB
IRL ¹	Input Return Loss	$P_{in} = 2W, F = 400, 450 \text{ MHz}$	8	dB
η_D^1	Drain Efficiency	$P_{in} = 2W, F = 400, 450 \text{ MHz}$	60	%
PD ¹	Pulse Droop	$P_{in} = 2W, F = 400, 450 \text{ MHz}$	<0.4	dB

¹Under Pulse Conditions: Pulse Width = 300μs, Pulse Duty Cycle = 10% at $V_{DD} = 50V, I_{DQ} = 100mA$

²Rated at $T_{CASE} = 25^\circ C$

PACKAGE DIMENSIONS



Note: Drawing is not actual size.

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