

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 420 MHz and 470 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

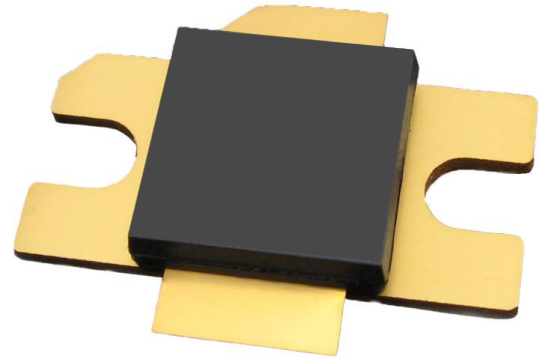
ELECTRICAL CHARACTERISTICS

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	μ A
I _{GSS}	Gate Leakage Current	V _{GS} =5V, V _{DS} =0V	<10	μ A
G _p ¹	Power Gain	P _{in} =2.4W, F=420/470 MHz	21.0	dB
IRL ¹	Input Return Loss	P _{in} =2.4W, F=420/470 MHz	8	dB
η_D ¹	Drain Efficiency	P _{in} =2.4W, F=420/470 MHz	57	%
PD ¹	Pulse Droop	P _{in} =2.4W, F=420/470 MHz	<0.4	dB

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

²Rated at T_{CASE} = 25°C

PACKAGE



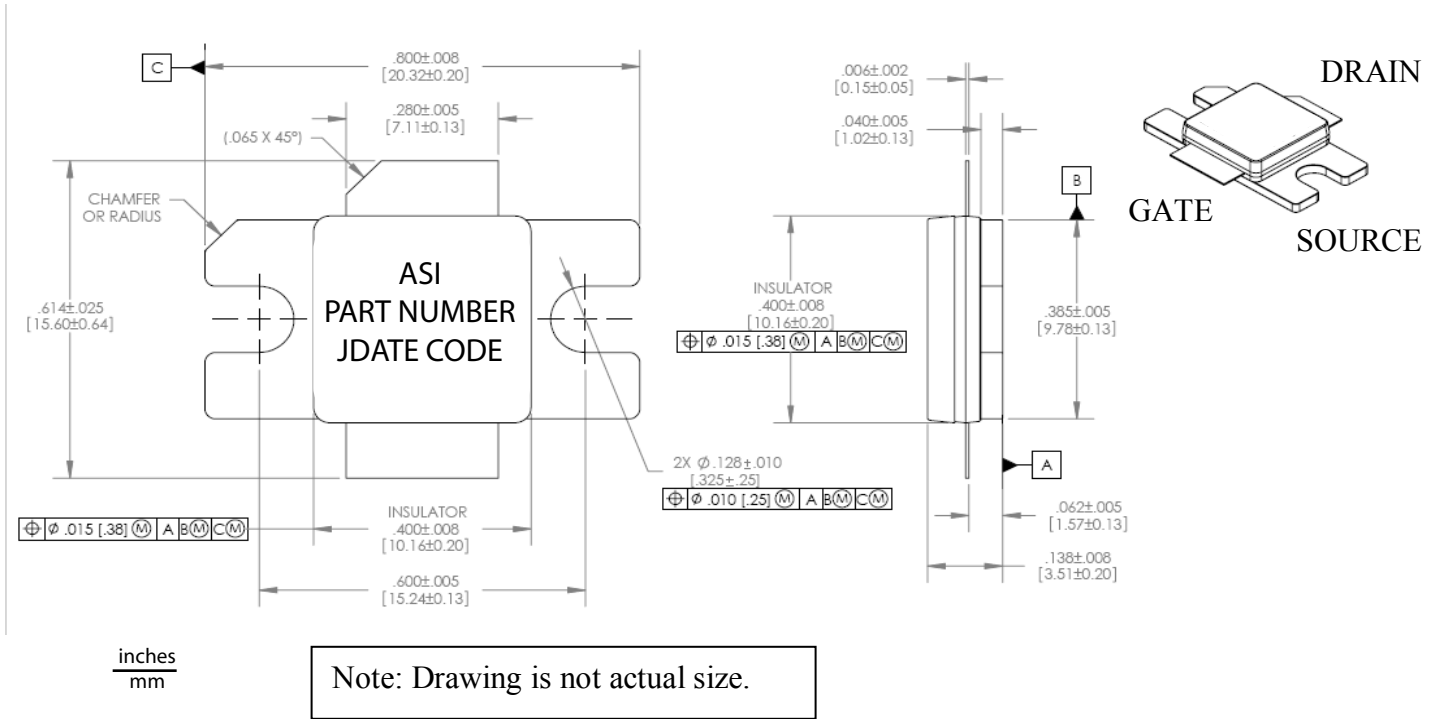
The device utilizes a two-lead metal flanged package with a liquid crystal polymer lid. The HV400 package style is qualified for gross leak test – MIL-STD-883, Method 1014.

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 = 470 MHz	20:1	VSWR

PACKAGE DIMENSIONS



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