

Thermally-Enhanced High Power RF GaN HEMT 350 W, 50 V, 1200 - 1400 MHz

Description

The GTVA123501FA is a 350-watt GaN high electron mobility transistor (HEMT) for use in the 1200 to 1400 MHz frequency band. It features input matching, high efficiency, and a thermally-enhanced surface-mount package with earless flange.

Features

- GaN HEMT technology
- Broadband internal input matching
- Pb-free and RoHS compliant

Advance Specification Data Sheets describe products that are being considered by Infineon for development and market introduction. The target performance shown in Advance Specifications is not final and should not be used for any design activity. Please contact Infineon about the future availability of these products.



GTVA123501FA
Package H-37265J-2

advance specification

Target RF Characteristics

Typical RF Performance (tested in Infineon test fixture)

$V_{DD} = 50\text{ V}$, $I_{DQ} = 300\text{ mA}$, $P_{OUT} = 350\text{ W}$, $f = 1200 - 1400\text{ MHz}$, Pulse Width = 300 μs , DC = 10%

Characteristic	Symbol	Min	Typ	Max	Unit
Linear Gain	G_{ps}	—	18	—	dB
Drain Efficiency	η_D	—	71	—	%

All published data at $T_{CASE} = 25^\circ\text{C}$ unless otherwise indicated

ESD: Electrostatic discharge sensitive device—observe handling precautions!

DC Characteristics (measured on wafer prior to packaging)

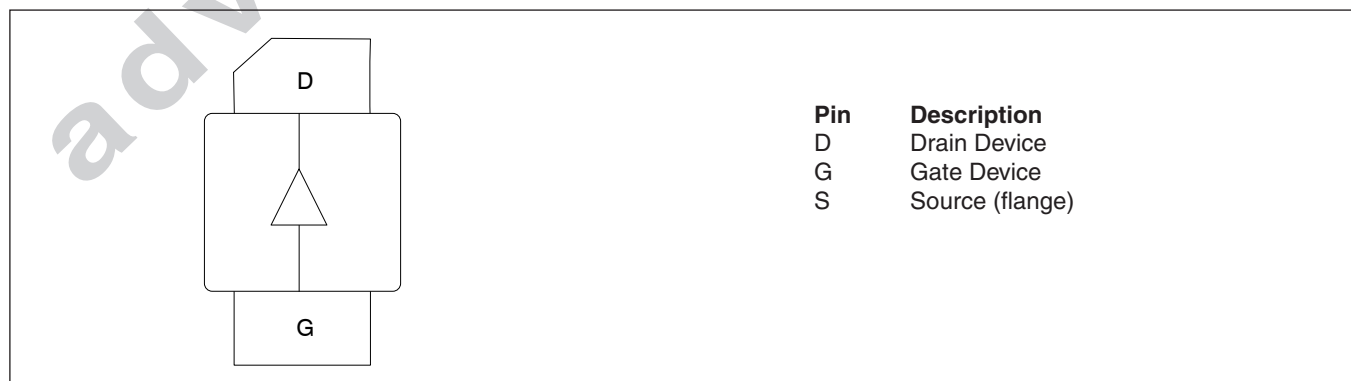
Characteristic	Conditions	Symbol	Min	Typ	Max	Unit
Drain-source Breakdown Voltage	$V_{GS} = -8\text{ V}$, $I_D = \text{TBD mA}$	$V_{(BR)DSS}$	150	—	—	V
Drain Source Leakage Current	$V_{GS} = -8\text{ V}$, $V_{DS} = 10\text{ V}$	I_{DSX}	—	—	TBD	mA
Gate Threshold Voltage	$V_{DS} = 10\text{ V}$, $I_D = \text{TBD mA}$	$V_{GS(th)}$	TBD	TBD	TBD	V
Gate Quiescent Voltage	$V_{DS} = 50\text{ V}$, $I_D = \text{TBD A}$	$V_{GS(Q)}$	—	TBD	—	V

Maximum Ratings

Parameter	Symbol	Value	Unit
Drain-source Voltage	V_{DSS}	125	V
Gate-source Voltage	V_{GS}	-10 to +2	V
Operating Voltage	V_{DD}	0 to +50	V
Gate Current	I_G	TBD	mA
Drain Current	I_D	TBD	A
Junction Temperature	T_J	225	°C
Storage Temperature Range	T_{STG}	-65 to +150	°C
Thermal Resistance ($T_{CASE} = 70^\circ\text{C}$)	$R_{\theta JC}$	TBD	°C/W

Ordering Information

Type and Version	Order Code	Package Description	Shipping
GTVA123501FA V1 R0	TBD	H-37265J-2, earless flange	Tape & Reel, 50 pcs
GTVA123501FA V1 R2	TBD	H-37265J-2, earless flange	Tape & Reel, 250 pcs

Pinout Diagram (top view)


Lead connections for GTVA123501FA

Package Outline Specifications

Package H-37265J-2

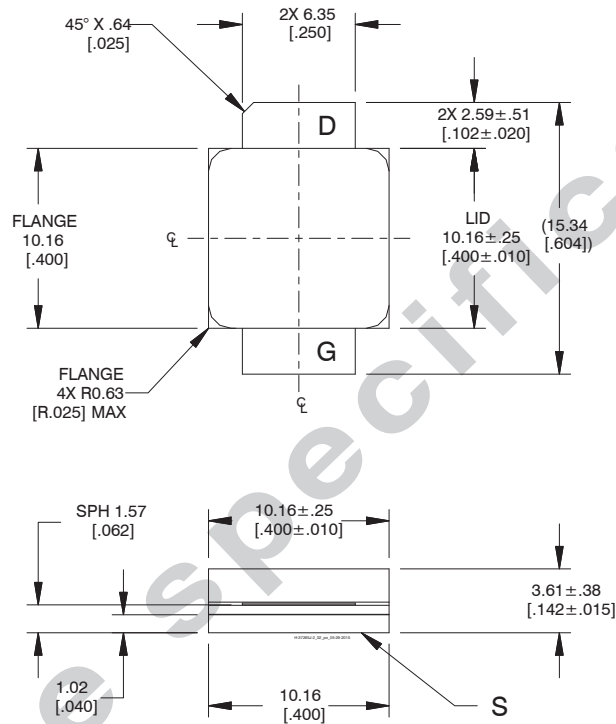


Diagram Notes—unless otherwise specified:

1. Interpret dimensions and tolerances per ASME Y14.5M-1994.
2. Primary dimensions are mm. Alternate dimensions are inches.
3. All tolerances ± 0.127 [0.005] unless specified otherwise.
4. Pins: D – drain; G – gate; S – source.
5. Lead thickness: $0.10 + 0.051/-0.025$ mm [0.004 +0.002/-0.001 inch].
6. Gold plating thickness: 1.14 ± 0.38 micron [45 \pm 15 microinch].

Find the latest and most complete information about products and packaging at the Infineon Internet page (www.infineon.com/rfpower)

Revision History

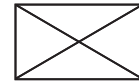
Revision	Date	Data Sheet Type	Page	Subjects (major changes since last revision)
01	2016-05-23	Advance	All	Data Sheet reflects advance specification for product development

We Listen to Your Comments

Any information within this document that you feel is wrong, unclear or missing at all? Your feedback will help us to continuously improve the quality of this document. Please send your proposal (including a reference to this document) to:

highpowerRF@infineon.com

To request other information, contact us at:
 +1 877 465 3667 (1-877-GO-LDMOS) USA
 or +1 408 776 0600 International



Edition 2016-05-23

Published by
Infineon Technologies AG
85579 Neubiberg, Germany

© 2016 Infineon Technologies AG
All Rights Reserved.

Legal Disclaimer

The information given in this document shall in no event be regarded as a guarantee of conditions or characteristics. With respect to any examples or hints given herein, any typical values stated herein and/or any information regarding the application of the device, Infineon Technologies hereby disclaims any and all warranties and liabilities of any kind, including without limitation, warranties of non-infringement of intellectual property rights of any third party.

Information

For further information on technology, delivery terms and conditions and prices, please contact the nearest Infineon Technologies Office (www.infineon.com/rfpower).

Warnings

Due to technical requirements, components may contain dangerous substances. For information on the types in question, please contact the nearest Infineon Technologies Office.

Infineon Technologies components may be used in life-support devices or systems only with the express written approval of Infineon Technologies, if a failure of such components can reasonably be expected to cause the failure of that life-support device or system or to affect the safety or effectiveness of that device or system. Life support devices or systems are intended to be implanted in the human body or to support and/or maintain and sustain and/or protect human life. If they fail, it is reasonable to assume that the health of the user or other persons may be endangered.