

MX1526G LDMOS TRANSISTOR

Document Number: MX1526G
Product Datasheet V1.0

80W, 12.5V High Power RF LDMOS FETs

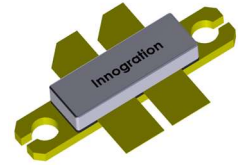
Description

The MX1526G is a 80-watt capable, highly rugged, unmatched, push pull LDMOS FET, designed for wide-band commercial and industrial applications with frequencies HF to 600MHz.

- Typical Performance (On Innogration fixture with device soldered):

Vgs=2.44V Vds=12.5V Idq=140mA CW								
Freq (MHz)	Psat (dBm)	Psat (W)	IDS (A)	Pin (dBm)	Gain (dB)	Eff (%)	2nd (dBc)	3rd (dBc)
136	49.86	96.8	10.71	33.38	16.48	72.33	-14.0	-13.0
145	50.38	109.1	11.61	33.10	17.28	75.21	-19.80	-11.30
155	50.57	114.0	11.86	32.96	17.61	76.91	-19.60	-10.00
165	50.43	110.4	11.83	33.16	17.27	74.66	-19.00	-10.00
174	49.87	97.1	10.35	33.32	16.55	75.02	-23.00	-10.70

MX1526G



Features

- High Efficiency and Linear Gain Operations
- Integrated ESD Protection
- Excellent thermal stability, low HCI drift
- Large Positive and Negative Gate/Source Voltage Range for Improved Class C Operation
- Pb-free, RoHS-compliant

Suitable Applications

- 2-30MHz (HF or Short wave communication)
- 30-88MHz (Ground communication)
- 54-88MHz (TV VHF I)
- 88-108MHz (FM)
- 118 -140MHz (Avionics)
- 136-174MHz (Commercial ground communication)
- 160-230MHz (TV VHF III)
- 30-512MHz (Jammer, Ground/Air communication)

Table 1. Maximum Ratings

Rating	Symbol	Value	Unit
Drain--Source Voltage	V _{DSS}	+65	Vdc
Gate--Source Voltage	V _{GS}	-10 to +10	Vdc
Operating Voltage	V _{DD}	+28	Vdc
Storage Temperature Range	T _{stg}	-65 to +150	°C
Case Operating Temperature	T _c	+150	°C
Operating Junction Temperature	T _j	+225	°C

Table 2. Thermal Characteristics

Characteristic	Symbol	Value	Unit
Thermal Resistance, Junction to Case T _c = 85°C, P _{out} =80W,CW Test	R _{θJC}	0.29	°C/W

MX1526G LDMOS TRANSISTOR

Document Number: MX1526G
Product Datasheet V1.0

Table 3. ESD Protection Characteristics

Test Methodology	Class
Human Body Model (per JESD22--A114)	Class 2

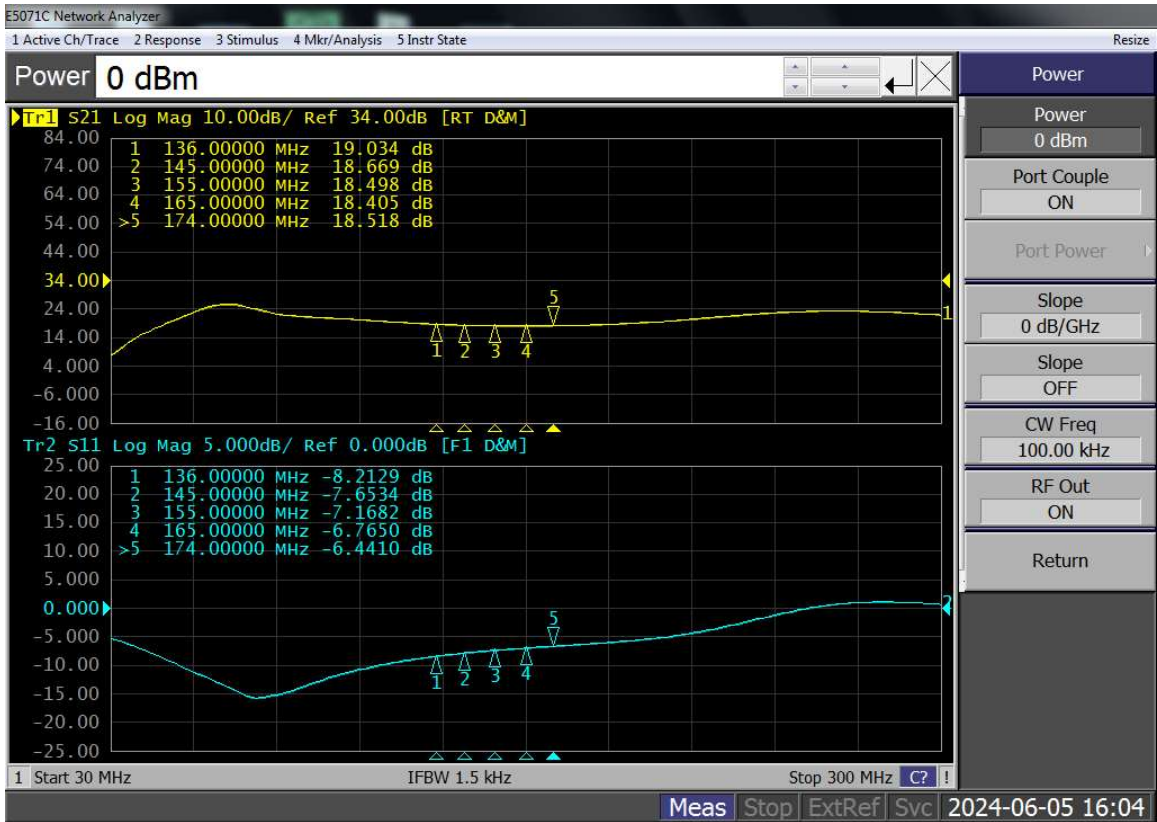
Table 4. Electrical Characteristics ($T_A = 25\text{ }^{\circ}\text{C}$ unless otherwise noted)

Characteristic	Symbol	Min	Typ	Max	Unit
Drain-Source Voltage $V_{GS}=0$, $I_{DS}=1.0\text{mA}$	$V_{(BR)DSS}$	65			V
Zero Gate Voltage Drain Leakage Current ($V_{DS} = 75\text{V}$, $V_{GS} = 0\text{V}$)	I_{DSS}	—	—	1	μA
Zero Gate Voltage Drain Leakage Current ($V_{DS} = 28\text{V}$, $V_{GS} = 0\text{V}$)	I_{DSS}	—	—	1	μA
Gate--Source Leakage Current ($V_{GS} = 10\text{V}$, $V_{DS} = 0\text{V}$)	I_{GSS}	—	—	1	μA
Gate Threshold Voltage ($V_{DS} = 12.5\text{V}$, $I_D = 400\text{ }\mu\text{A}$)	$V_{GS(th)}$	—	2	—	V
Gate Quiescent Voltage ($V_{DD} = 12.5\text{V}$, $I_D = 200\text{mA}$, Measured in Functional Test)	$V_{GS(Q)}$	—	2.5	—	V

Load Mismatch (In Innogration Test Fixture, 50 ohm system): $V_{DD} = 12.5\text{Vdc}$, $I_{DQ} = 200\text{mA}$, $f = 174\text{MHz}$

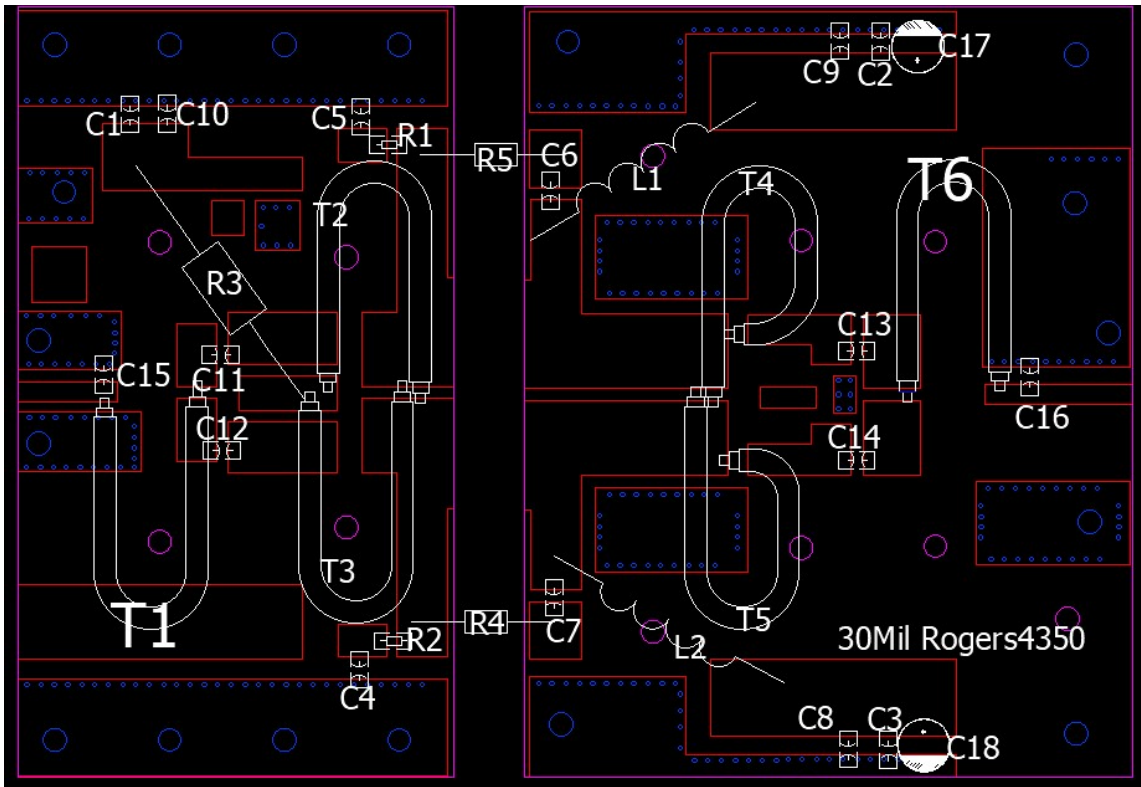
Load open and short, at 80W CW	No Device Degradation
--------------------------------	-----------------------

Figure 1: Network analyzer Output S11/S21



MX1526G LDMOS TRANSISTOR

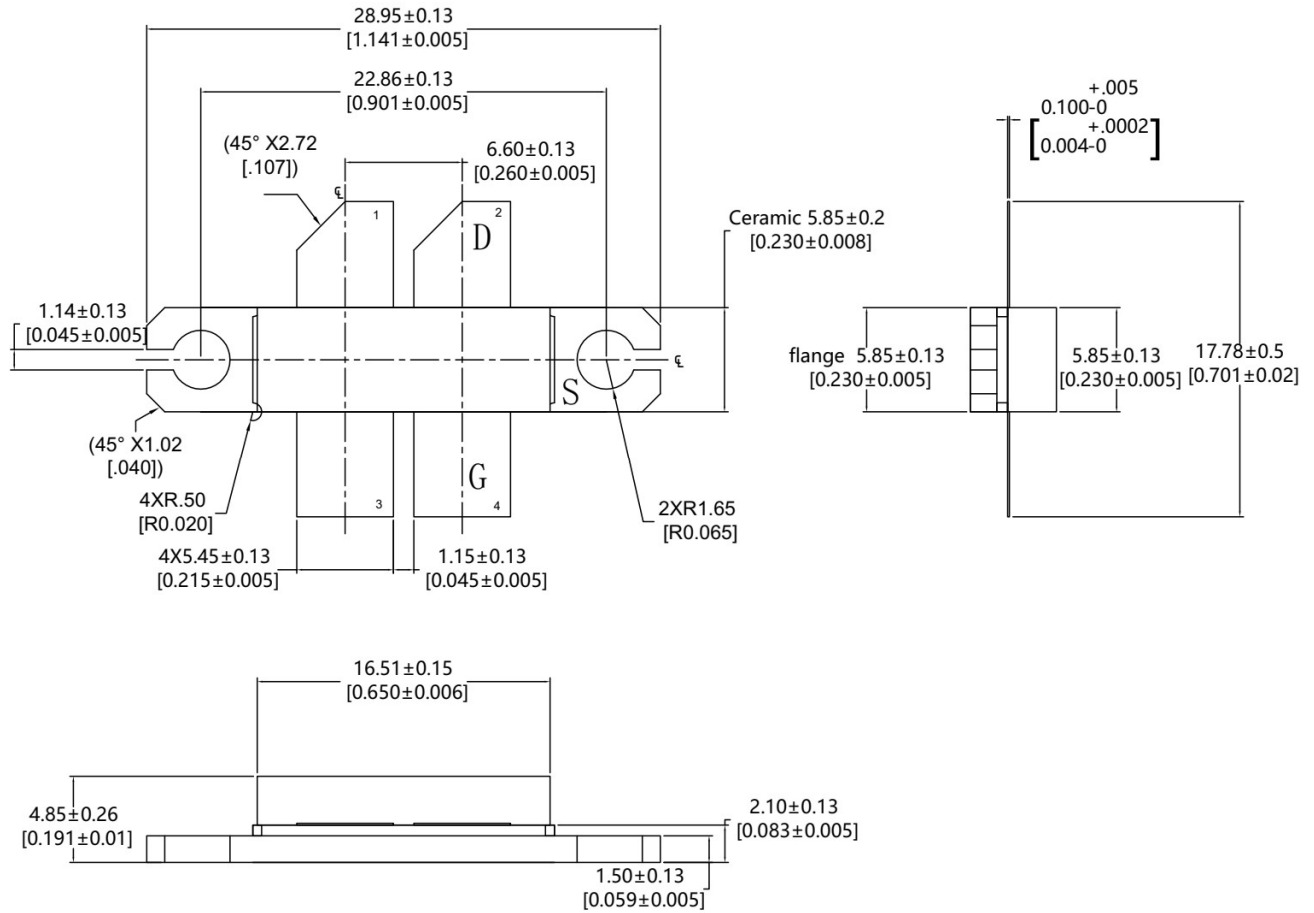
Document Number: MX1526G
Product Datasheet V1.0



Component	Description	Suggested Manufacturer
C1~C7	10uF	10uF/100V
C8~C10	910pF	BEIJING YUANLU HONGYUAN ELECTRONIC TECHNOLOGY CO., LTD.MQ101111
C11~C14	470pF	BEIJING YUANLU HONGYUAN ELECTRONIC TECHNOLOGY CO., LTD.MQ101111
C15	8.2pF	BEIJING YUANLU HONGYUAN ELECTRONIC TECHNOLOGY CO., LTD.MQ101111
C16	10pF	BEIJING YUANLU HONGYUAN ELECTRONIC TECHNOLOGY CO., LTD.MQ101111
C17,C18	470uF/63V	Electrolytic Capacitor
R1,R2	10 Ω	Chip Resistor
R3~R5	300 Ω	Color ring resistance
L1, L2	1.5mm wire , 5mm inner diameter, 4 Turns	DIY
T1,T6	50 ohm, 100mm	RFSFBU-086-50
T2,T3	16.7 ohm, 100mm	SFF-16.7-1.5
T4,T5	12.5 ohm , 100mm	SFF-12.5-1.5
PCB	30Mil Rogers4350	

Package Outline

Flanged ceramic package; 2 mounting holes; 4 leads



OUTLINE VERSION	REFERENCE			EUROPEAN PROJECTION	ISSUE DATE
	IEC	JEDEC	JEITA		
PKG-LB/LBB					05/21/2021

Revision history

Table 5. Document revision history

Date	Revision	Datasheet Status
2024/6/5	Rev 1.0	Product Datasheet Creation

Disclaimers

Specifications are subject to change without notice. Innogration believes the information contained within this data sheet to be accurate and reliable. However, no responsibility is assumed by Innogration for any infringement of patents or other rights of third parties which may result from its use. No license is granted by implication or otherwise under any patent or patent rights of Innogration . Innogration makes no warranty, representation or guarantee regarding the suitability of its products for any particular purpose. “Typical” parameters are the average values expected by Innogration in large quantities and are provided for information purposes only. These values can and do vary in different applications and actual performance can vary over time. All operating parameters should be validated by customer’s technical experts for each application. Innogration products are not designed, intended or authorized for use as components in applications intended for surgical implant into the body or to support or sustain life, in applications in which the failure of the Innogration product could result in personal injury or death or in applications for planning, construction, maintenance or direct operation of a nuclear facility. For any concerns or questions related to terms or conditions, pls check with Innogration and authorized distributors

Copyright © by Innogration (Suzhou) Co.,Ltd.