

# MQ1430S LDMOS TRANSISTOR

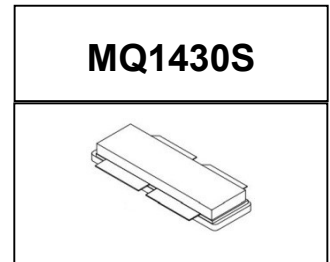
Document Number: MQ1430S  
Preliminary Datasheet V1.0

## 300W, 32V , 1.2-1.4GHz High Power RF LDMOS FETs

### Description

The MQ1430S is a 300-watt capable, high performance, internally matched push pull LDMOS FET, for wide-band commercial and industrial applications with frequencies 1200 to 1400MHz.

It can be used for both CW and pulse application or any other modulation signal.



● Typical CW Performance at 32V (On Innogration 1.2-1.4GHz wideband fixture with device soldered):

Freq(MHz)	Pin(dBm)	Pout(dBm)	Pout(W)	Ids(A)	Gain(dB)	Eff (%)
1200	41.6	55.12	325.1	18.35	13.52	55.4%
1250	41.9	55.57	360.6	20.47	13.67	55.0%
1300	41.6	55.72	373.3	20.57	14.12	56.7%
1350	41.1	55.65	367.3	19.3	14.55	59.5%
1400	41.9	55.23	333.4	17.86	13.33	58.3%

### ● Features

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

### Suitable Applications

- L band pulse amplifier
- Jammer

**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	$V_{DD}$	+40	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 $T_C=85^{\circ}C, T_J=200^{\circ}C, DC\ test$	$R_{\theta JC}$	0.2	°C/W

**Table 3. ESD Protection Characteristics**

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

# MQ1430S LDMOS TRANSISTOR

Document Number: MQ1430S  
Preliminary Datasheet V1.0

## Reference Circuit of Test Fixture Assembly Diagram (Layout file upon request, 30mil RO4350)

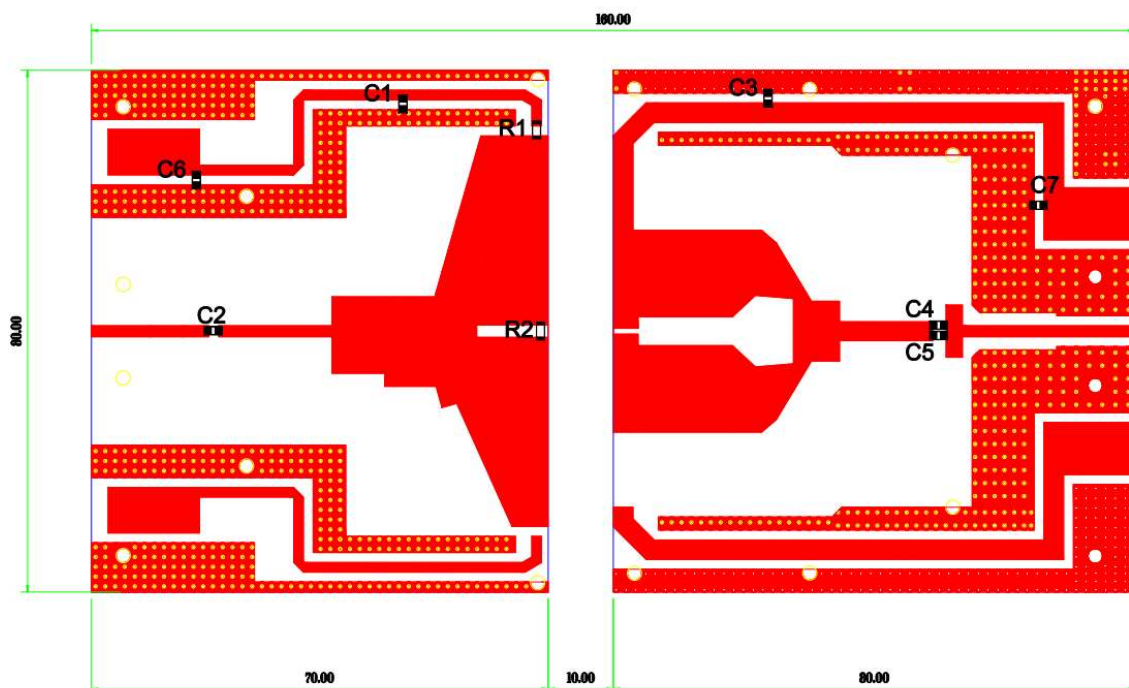


Table 5. Test Circuit Component Designations and Values

Component	Description	Suggested Manufacturer
C1, C3, C4, C5	27pF	DLC70B
C2	33pF	DLC70B
C6, C7,	10uF/50V	1210
R1, R2	Chip Resistor,9.1Ω,1206	
PCB	30Mil Rogers 4350B	

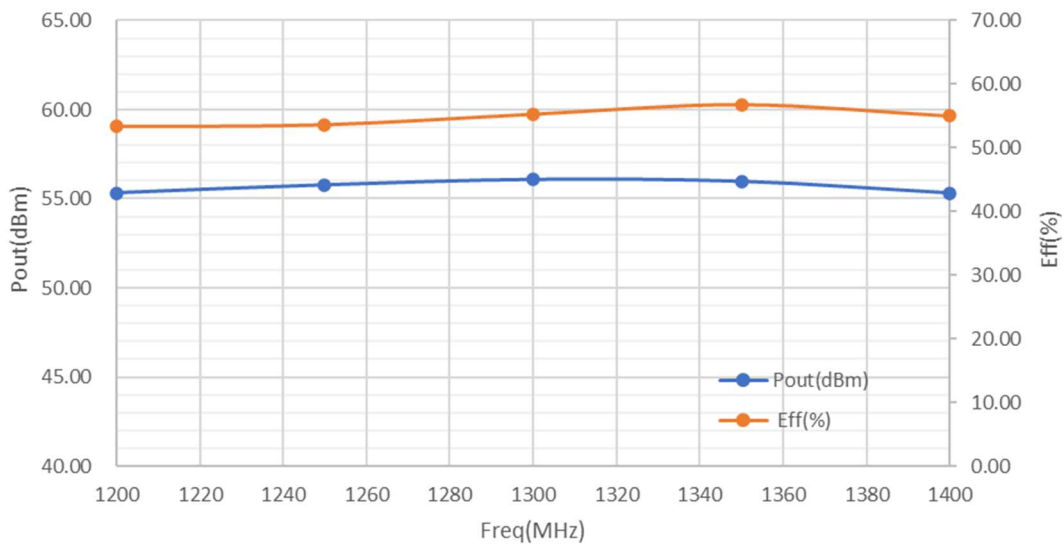
## TYPICAL CHARACTERISTICS

Figure 1. Network analyzer output S11/S21 ( $V_{ds}=32V$   $I_{dq}=1A$   $V_{gs}=2.8V$ )



Figure 2. RF performance across the band

$V_{gs}=2.6V$ ,  $V_{ds}=32V$   $I_{dq}=300mA$ , Signal mode: Pulse width=100us DutyCycle=10%

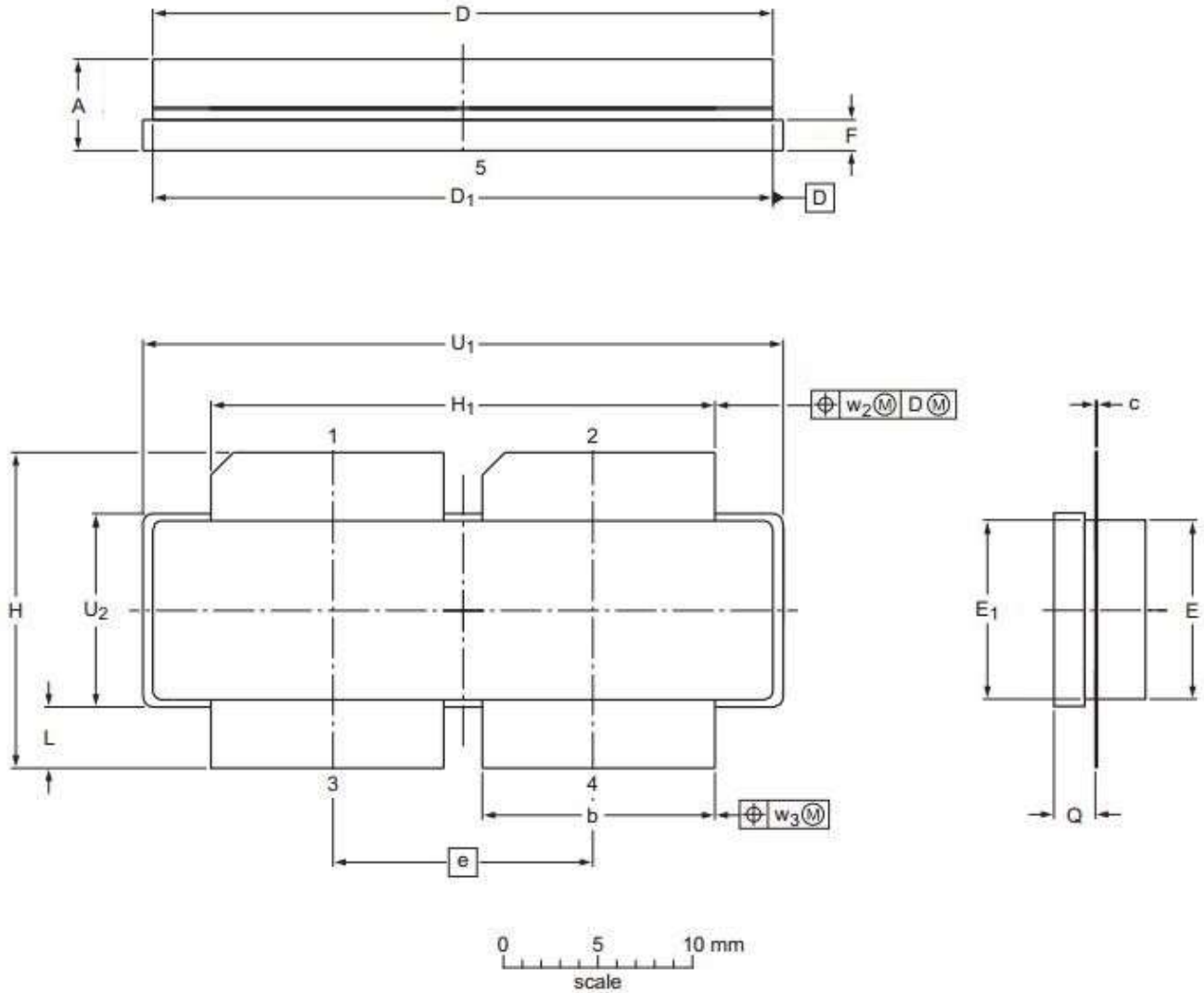


# MQ1430S LDMOS TRANSISTOR

Document Number: MQ1430S  
Preliminary Datasheet V1.0

## Package Outline

Earless flanged ceramic package; 4 leads (1, 2—DRAIN, 3, 4—GATE, 5—SOURCE)



UNIT	A	b	c	D	D <sub>1</sub>	e	E	E <sub>1</sub>	F	H	H <sub>1</sub>	L	Q	U <sub>1</sub>	U <sub>2</sub>	W <sub>2</sub>	W <sub>2</sub>
mm	4.7	11.81	0.18	31.55	31.52	13.72	9.50	9.53	1.75	17.12	25.53	3.48	2.26	32.39	10.29	0.25	0.25
	4.2	11.56	0.10	30.94	30.96		9.30	9.27	1.50	16.10	25.27	2.97	2.01	32.13	10.03		
inches	0.185	0.465	0.007	1.242	1.241	0.540	0.374	0.375	0.069	0.674	1.005	0.137	0.089	1.275	0.405	0.01	0.01
	0.165	0.455	0.004	1.218	1.219		0.366	0.365	0.059	0.634	0.995	0.117	0.079	1.265	0.395		

OUTLINE VERSION	REFERENCE			EUROPEAN PROJECTION	ISSUE DATE
	IEC	JEDEC	JEITA		
PKG-D4					03/12/2013

# MQ1430S LDMOS TRANSISTOR

Document Number: MQ1430S  
Preliminary Datasheet V1.0

## Revision history

Table 5. Document revision history

Date	Revision	Datasheet Status
2022/7/14	Rev 1.0	Preliminary Datasheet

Application data based on JF-22-13

## 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.