

# MQ011K7EPX LDMOS TRANSISTOR

Document Number: MQ011K7EPX  
Advanced Datasheet V1.0

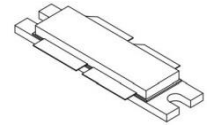
## 1700W, 65V High Power RF LDMOS FETs

### Description

The MQ011K7EPX is a 1700W capable, highly rugged, unmatched LDMOS FET, designed for commercial and industrial applications with frequencies HF to 250MHz.

It is featured for industry leading high power and high ruggedness, suitable for Industrial, Scientific and Medical application, as well as HF communication, VHF TV and Aerospace applications.

### MQ011K7EPX



Freq(MHz)	Voltage(V)	Signal type	Pin(dBm)	Pout(W)	Power Gain(dB)	Eff(%)	Remark
108	65	Pulsed CW	44	1830	18.3	82	Balun
108	50	CW	42.2	1000	17.8	81	Balun

### Features

- High breakdown voltage 190V to enable possible class E operation at lower Vdd up to 50V
- Qualified up to a maximum of VDS = 65 V Class AB
- Characterized from 36 V to 65 V to support a wide range of applications
- High Efficiency and Linear Gain Operations
- On chip RC network enable high stability and ruggedness
- Integrated ESD Protection
- Large Positive and Negative Gate/Source Voltage Range for Improved Class C Operation
- Excellent thermal stability, low HCI drift
- Compliant to Restriction of Hazardous Substances (RoHS) Directive 2002/95/EC

**Table 1. Maximum Ratings**

Rating	Symbol	Value	Unit
Drain—Source Voltage	$V_{DS}$	190	Vdc
Gate—Source Voltage	$V_{GS}$	-10 to +10	Vdc
Operating Voltage	$V_{DD}$	+65	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 ,Case Temperature 85°C, 1700W CW, 65 Vdc, IDQ = 240 mA	$R_{\theta JC}$	TBD	°C/W
Transient thermal impedance from junction to case $T_J = 150^\circ\text{C}$ ; $t_p = 100\text{ us}$ ; Duty cycle = 20 %	$Z_{th}$	TBD	°C/W

**Table 3. ESD Protection Characteristics**

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

# MQ011K7EPX LDMOS TRANSISTOR

Document Number: MQ011K7EPX  
Advanced Datasheet V1.0

**Table 4. Electrical Characteristics** (TA = 25 °C unless otherwise noted)

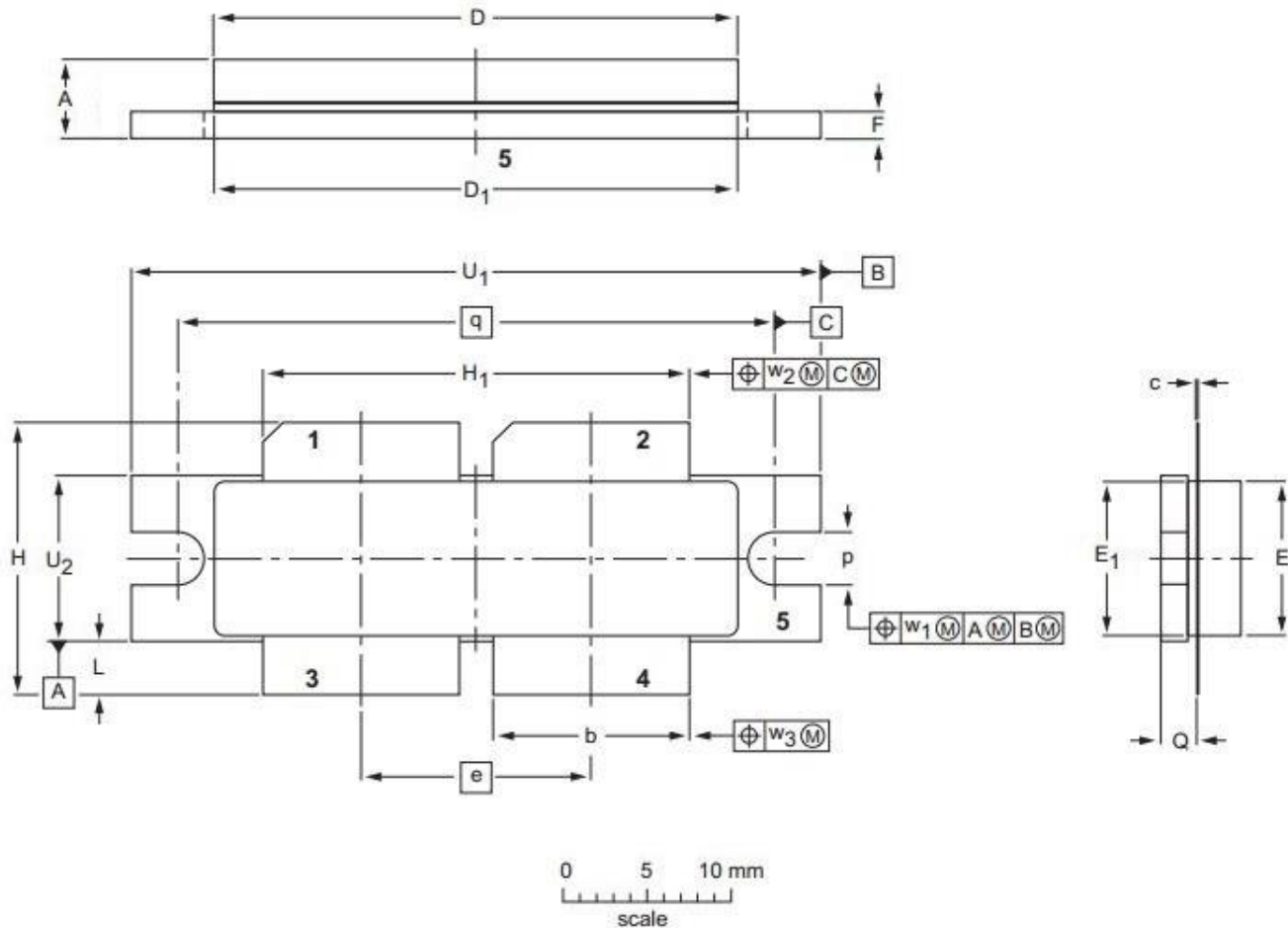
Characteristic	Symbol	Min	Typ	Max	Unit
<b>DC Characteristics</b>					
Drain-Source Voltage V <sub>GS</sub> =0V, I <sub>DS</sub> =20.0 mA	V <sub>(BR)DSS</sub>		190		V
Zero Gate Voltage Drain Leakage Current (V <sub>DS</sub> = 55V, V <sub>GS</sub> = 0 V)	I <sub>DSS</sub>	—	—	1	μA
Gate—Source Leakage Current (V <sub>GS</sub> = 10 V, V <sub>DS</sub> = 0 V)	I <sub>GSS</sub>	—	—	1	μA
Gate Threshold Voltage (V <sub>DS</sub> = 55V, I <sub>D</sub> = 600 μA)	V <sub>GS(th)</sub>	—	2.6	—	V
Gate Quiescent Voltage (V <sub>DD</sub> = 60 V, I <sub>D</sub> = 240 mA, Measured in Functional Test)	V <sub>GS(Q)</sub>	—	3	—	V
Drain source on state resistance (V <sub>DS</sub> = 0.1V, V <sub>GS</sub> = 10 V) Each section side of device measured	R <sub>ds(on)</sub>		125		mΩ
Common Source Input Capacitance (V <sub>GS</sub> = 0V, V <sub>DS</sub> =65 V, f = 1 MHz) Each section side of device measured	C <sub>ISS</sub>		940		pF
Common Source Output Capacitance (V <sub>GS</sub> = 0V, V <sub>DS</sub> =65 V, f = 1 MHz) Each section side of device measured	C <sub>OSS</sub>		146		pF
Common Source Feedback Capacitance (V <sub>GS</sub> = 0V, V <sub>DS</sub> =65 V, f = 1 MHz) Each section side of device measured	C <sub>RSS</sub>		3.1		pF

# MQ011K7EPX LDMOS TRANSISTOR

Document Number: MQ011K7EPX  
Advanced Datasheet V1.0

## Package Outline

Flanged ceramic package; 2 mounting holes; 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	p	Q	q	U <sub>1</sub>	U <sub>2</sub>	W <sub>1</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	3.30	2.26	35.56	41.28	10.29	0.25	0.51	0.25
	4.2	11.56	0.10	30.94	30.96		9.30	9.27	1.50	16.10	25.27	2.97	3.05	2.01		41.02	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	0.130	0.089	1.400	1.625	0.405	0.01	0.02	0.01
	0.165	0.455	0.004	1.218	1.219		0.366	0.365	0.059	0.634	0.995	0.117	0.120	0.079		1.615	0.395			

OUTLINE VERSION	REFERENCE			EUROPEAN PROJECTION	ISSUE DATE
	IEC	JEDEC	JEITA		
PKG-D4E					03/12/2013

Revision history

Table 5. Document revision history

Date	Revision	Datasheet Status
2025/12/26	Rev 1.0	Advanced Datasheet

Application data based on HL-25-43

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.