

# isc N-Channel MOSFET Transistor

# IRL3713S

**• FEATURES**

- With TO-263(D2PAK) packaging
- With low gate drive requirements
- Easy to drive
- 100% avalanche tested
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

**• APPLICATIONS**

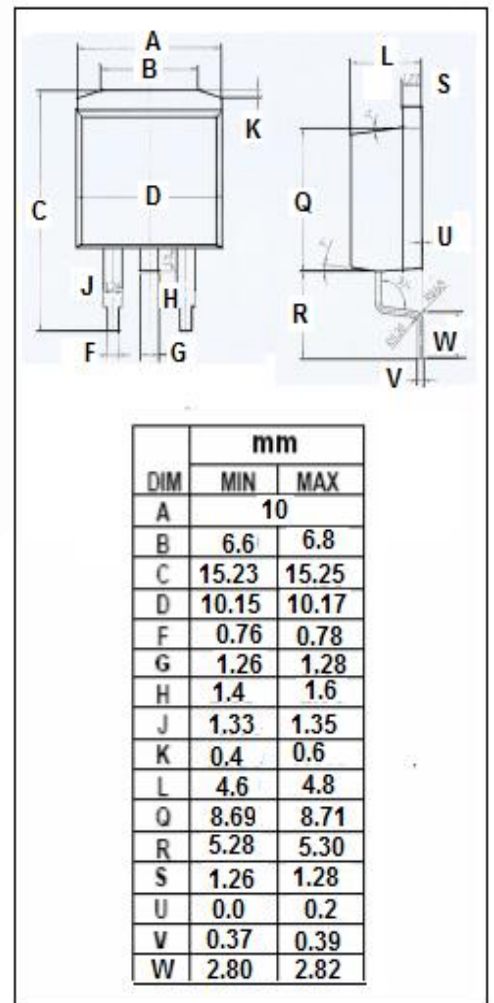
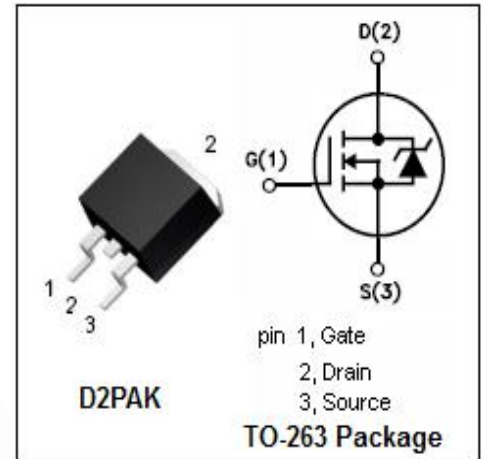
- High frequency isolated DC-DC converters with synchronous rectification for telecom and industrial use

**• ABSOLUTE MAXIMUM RATINGS(T<sub>a</sub>=25°C)**

SYMBOL	PARAMETER	VALUE	UNIT
V <sub>DSS</sub>	Drain-Source Voltage	30	V
V <sub>GSS</sub>	Gate-Source Voltage	±20	V
I <sub>D</sub>	Drain Current-Continuous@T <sub>c</sub> =25°C T <sub>c</sub> =100°C	260 180	A
I <sub>DM</sub>	Drain Current-Single Pulsed	1040	A
P <sub>D</sub>	Total Dissipation @T <sub>c</sub> =25°C T <sub>c</sub> =100°C	330 170	W
T <sub>j</sub>	Operating Junction Temperature	-55~175	°C
T <sub>stg</sub>	Storage Temperature	-55~175	°C

**• THERMAL CHARACTERISTICS**

SYMBOL	PARAMETER	MAX	UNIT
R <sub>th(ch-c)</sub>	Channel-to-case thermal resistance	0.45	°C/W
R <sub>th(ch-a)</sub>	Channel-to-ambient thermal resistance	62	°C/W



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**IRL3713S**

**ELECTRICAL CHARACTERISTICS**

T<sub>C</sub>=25°C unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP	MAX	UNIT
BV <sub>DSS</sub>	Drain-Source Breakdown Voltage	V <sub>GS</sub> =0V; I <sub>D</sub> = 0.25mA	30			V
V <sub>GS(th)</sub>	Gate Threshold Voltage	V <sub>DS</sub> =±30V; I <sub>D</sub> =0.25mA	1.0		2.5	V
R <sub>DS(on)</sub>	Drain-Source On-Resistance	V <sub>GS</sub> = 10V; I <sub>D</sub> =38A V <sub>GS</sub> = 4.5V; I <sub>D</sub> =30A		2.6 3.3	3.0 4.0	mΩ
I <sub>GSS</sub>	Gate-Source Leakage Current	V <sub>GS</sub> = ±30V; V <sub>DS</sub> = 0V			±0.1	μA
I <sub>DSS</sub>	Drain-Source Leakage Current	V <sub>DS</sub> = 24V; V <sub>GS</sub> = 0V; @T <sub>C</sub> =25°C T <sub>C</sub> =125°C			20 100	μA
V <sub>SDF</sub>	Diode forward voltage	I <sub>SD</sub> =30A, V <sub>GS</sub> = 0 V			1.3	V