

isc N-Channel MOSFET Transistor

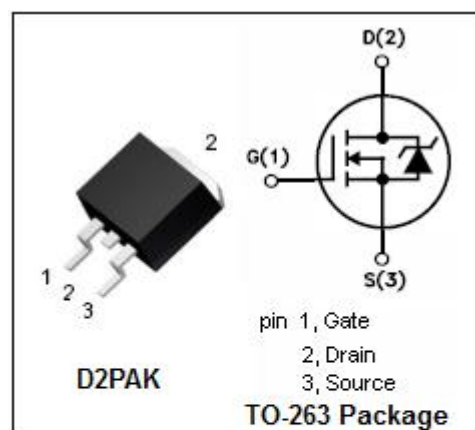
IRF3709ZCS

• DESCRIPTION

- Static drain-source on-resistance:
 $R_{DS(on)} \leq 6.3\text{m}\Omega @ V_{GS} = 10\text{V}$
- Drain Source Voltage
 $V_{DSS} = 30\text{V}(\text{Min})$
- 100% avalanche tested
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

• APPLICATIONS

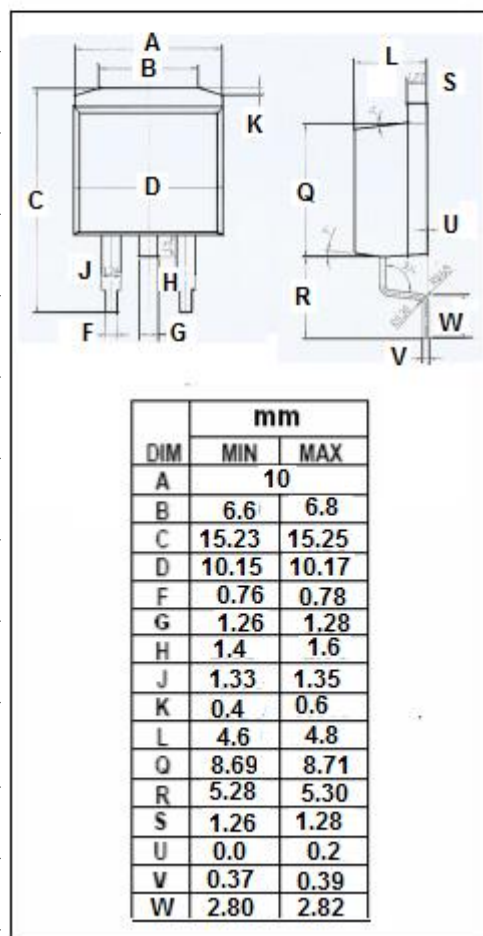
- High Frequency Synchronous Buck Converters for Computer Processor Power.

ABSOLUTE MAXIMUM RATINGS($T_C=25^\circ\text{C}$)

SYMBOL	PARAMETER	VALUE	UNIT
V_{DSS}	Drain-Source Voltage ($V_{GS}=0$)	30	V
V_{GS}	Gate-Source Voltage	± 20	V
I_D	Drain Current-continuous	87	A
$I_{D(puls)}$	Pulse Drain Current	350	A
P_{tot}	Total Dissipation	79	W
T_j	Max. Operating Junction Temperature	175	$^\circ\text{C}$
T_{stg}	Storage Temperature Range	-55~175	$^\circ\text{C}$

• THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	MAX	UNIT
$R_{th j-c}$	Thermal Resistance, Junction to Case	1.89	$^\circ\text{C/W}$



isc N-Channel MOSFET Transistor**IRF3709ZCS****• ELECTRICAL CHARACTERISTICS (T_c=25°C)**

SYMBOL	PARAMETER	CONDITIONS	MIN	TYPE	MAX	UNIT
V _{(BR)DSS}	Drain-Source Breakdown Voltage	V _{GS} = 0; I _D = 250μA	30			V
V _{GS(th)}	Gate Threshold Voltage	V _{DS} = V _{GS} ; I _D =250μA	1.35		2.25	V
R _{DS(on)}	Drain-Source On-Resistance	V _{GS} = 10V; I _D =21A			6.3	mΩ
I _{GSS}	Gate-Body Leakage Current	V _{GS} = ±20V; V _{DS} = 0			±100	nA
I _{DSS}	Zero Gate Voltage Drain Current	V _{DS} = 24V; V _{GS} = 0; T _J =25°C			1	μA
		V _{DS} = 24V; V _{GS} = 0; T _J =125°C			150	
V _{SD}	Diode Forward On-Voltage	I _S = 17A; V _{GS} = 0			1.0	V

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