

isc N-Channel MOSFET Transistor

IRFR3709Z, IIRFR3709Z

• FEATURES

- Static drain-source on-resistance:

$$R_{DS(on)} \leq 6.5m\Omega$$

- Enhancement mode:
- 100% avalanche tested
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

• DESCRIPTION

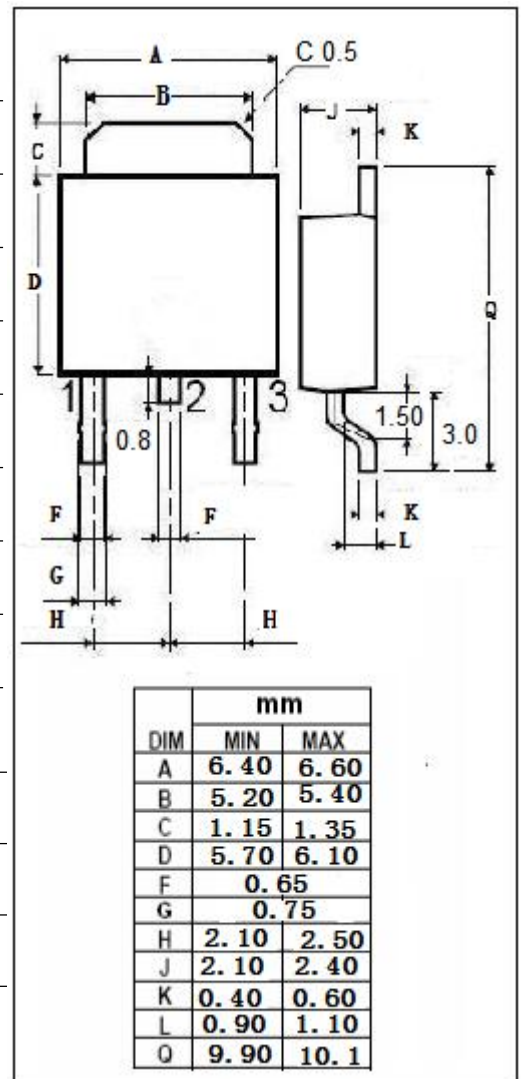
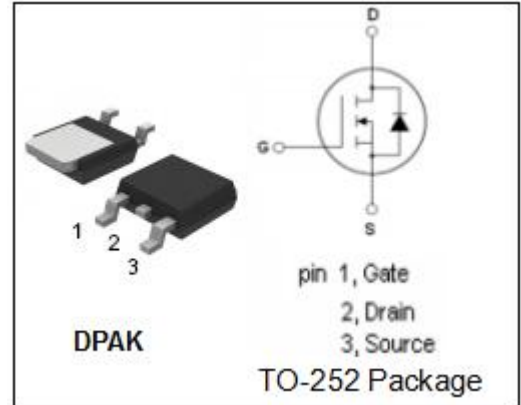
- High Frequency Synchronous Buck Converters For Computer Processor Power

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

SYMBOL	PARAMETER	VALUE	UNIT
V_{DS}	Drain-Source Voltage	30	V
V_{GS}	Gate-Source Voltage	± 20	V
I_D	Drain Current-Continuous	86	A
I_{DM}	Drain Current-Single Pulsed	340	A
P_D	Total Dissipation @ $T_c=25^\circ\text{C}$	79	W
T_j	Max. Operating Junction Temperature	175	$^\circ\text{C}$
T_{stg}	Storage Temperature	-55~175	$^\circ\text{C}$

• THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	MAX	UNIT
$R_{th(j-c)}$	Channel-to-case thermal resistance	1.9	$^\circ\text{C/W}$
$R_{th(j-a)}$	Channel-to-ambient thermal resistance	110	$^\circ\text{C/W}$



isc N-Channel MOSFET Transistor**IRFR3709Z, IIRFR3709Z****ELECTRICAL CHARACTERISTICS** $T_c=25^{\circ}\text{C}$ unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP	MAX	UNIT
BV_{DSS}	Drain-Source Breakdown Voltage	$V_{GS}=0V; I_D=0.25mA$	30			V
$V_{GS(th)}$	Gate Threshold Voltage	$V_{DS}=V_{GS}; I_D=250\mu A$	1.35		2.25	V
$R_{DS(on)}$	Drain-Source On-Resistance	$V_{GS}=10V; I_D=15A$			6.5	$m\Omega$
I_{GSS}	Gate-Source Leakage Current	$V_{GS}=\pm 20V$			± 0.1	μA
I_{DSS}	Drain-Source Leakage Current	$V_{DS}=24V; V_{GS}=0V$			1	μA
V_{SD}	Diode forward voltage	$I_s=12A, V_{GS}=0V$			1.0	V

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