

isc N-Channel MOSFET Transistor

IRFR3707Z, IIRFR3707Z

• FEATURES

- Static drain-source on-resistance:
 $R_{DS(on)} \leq 9.5m\Omega$
- Enhancement mode:
- 100% avalanche tested
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

• DESCRIPTION

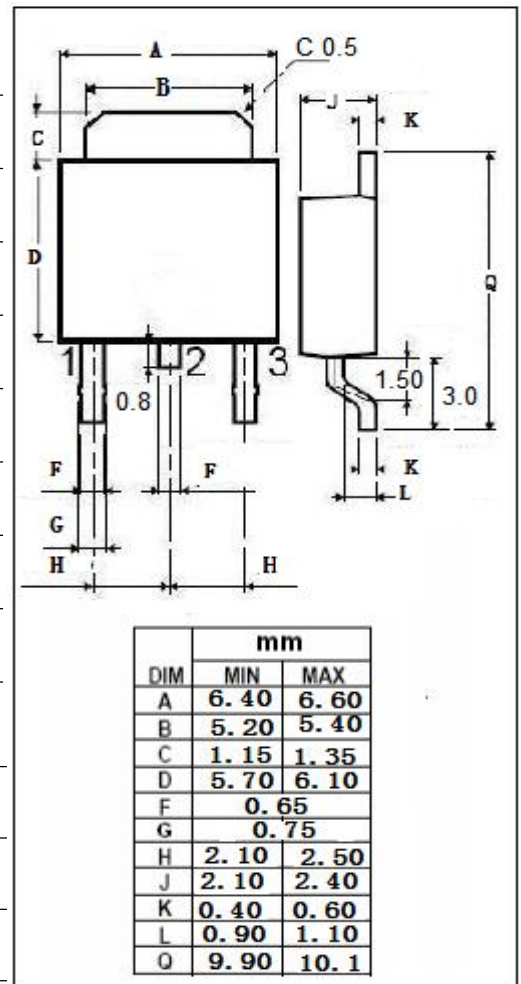
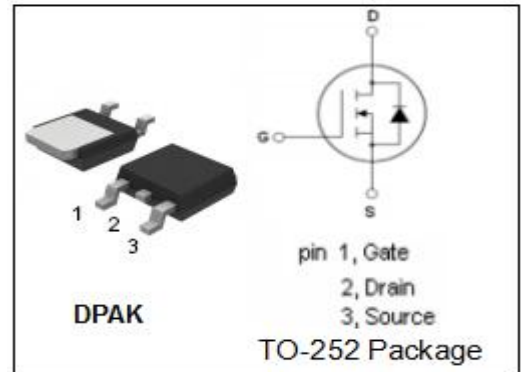
- High Frequency Synchronous Buck Converters

• 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	56	A
I_{DM}	Drain Current-Single Pulsed	220	A
P_D	Total Dissipation @ $T_c=25^\circ\text{C}$	50	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	3.0	$^\circ\text{C/W}$
$R_{th(j-a)}$	Channel-to-ambient thermal resistance	110	$^\circ\text{C/W}$



isc N-Channel MOSFET Transistor**IRFR3707Z, IIRFR3707Z****ELECTRICAL CHARACTERISTICS****T_C=25°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 =25 μA	1.35		2.25	V
R _{DS(on)}	Drain-Source On-Resistance	V _{GS} =10V; I _D =15A			9.5	mΩ
I _{GSS}	Gate-Source Leakage Current	V _{GS} = ±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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