

## isc N-Channel MOSFET Transistor

## IRFR3704Z, IIRFR3704Z

## • FEATURES

- Static drain-source on-resistance:  
 $R_{DS(on)} \leq 8.4 m\Omega$
- Enhancement mode:
- 100% avalanche tested
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

## • DESCRIPTION

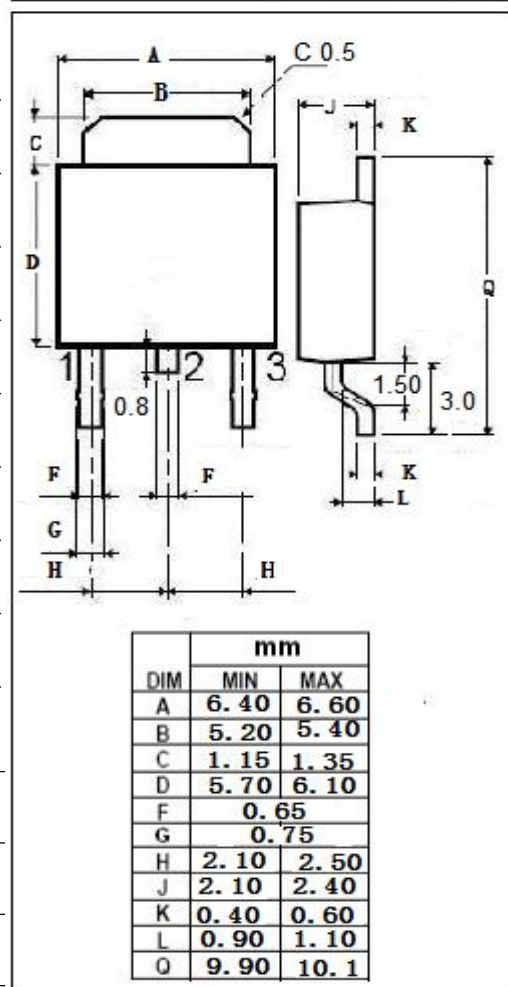
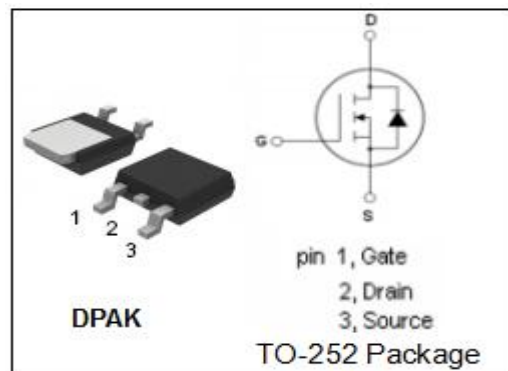
- High Frequency Synchronous Buck Converters

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

SYMBOL	PARAMETER	VALUE	UNIT
$V_{DS}$	Drain-Source Voltage	20	V
$V_{GS}$	Gate-Source Voltage	$\pm 20$	V
$I_D$	Drain Current-Continuous	60	A
$I_{DM}$	Drain Current-Single Pulsed	240	A
$P_D$	Total Dissipation @ $T_c=25^\circ\text{C}$	48	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	3.1	$^\circ\text{C/W}$
$R_{th(j-a)}$	Channel-to-ambient thermal resistance	110	$^\circ\text{C/W}$



**isc N-Channel MOSFET Transistor****IRFR3704Z, IIRFR3704Z****ELECTRICAL CHARACTERISTICS** $T_c=25^{\circ}\text{C}$  unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP	MAX	UNIT
$BV_{DSS}$	Drain-Source Breakdown Voltage	$V_{GS}=0V; I_D=0.25mA$	20			V
$V_{GS(th)}$	Gate Threshold Voltage	$V_{DS}=V_{GS}; I_D=250\mu A$	1.65		2.55	V
$R_{DS(on)}$	Drain-Source On-Resistance	$V_{GS}=10V; I_D=15A$			8.4	$m\Omega$
$I_{GSS}$	Gate-Source Leakage Current	$V_{GS}=\pm 20V$			$\pm 0.1$	$\mu A$
$I_{DSS}$	Drain-Source Leakage Current	$V_{DS}=16V; V_{GS}=0V$			1	$\mu A$
$V_{SD}$	Diode forward voltage	$I_s=12A, V_{GS}=0V$			1.0	V

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