

**isc N-Channel MOSFET Transistor**
**IRLR7807Z, IIRLR7807Z**
**• FEATURES**

- Static drain-source on-resistance:  
 $R_{DS(on)} \leq 13.8m\Omega$
- Enhancement mode:
- 100% avalanche tested
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

**• DESCRIPTION**

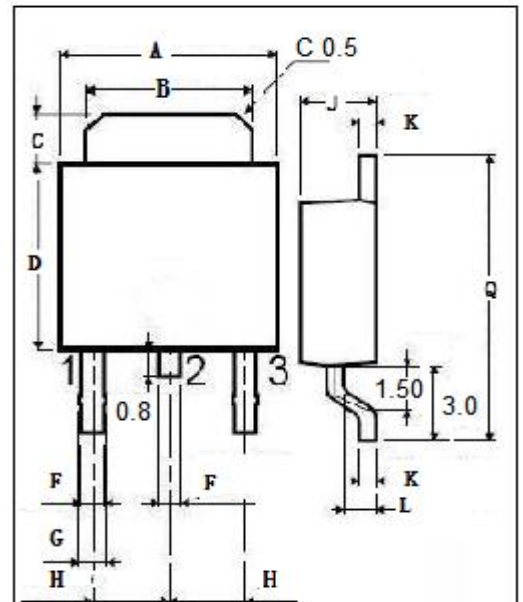
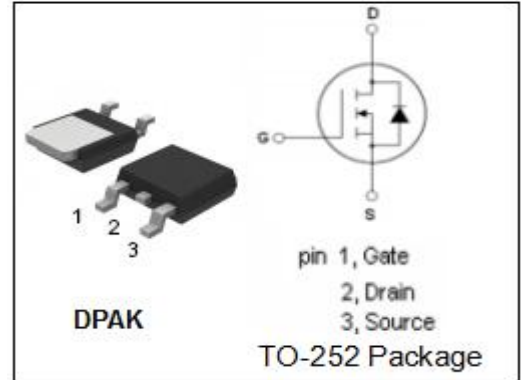
- High Frequency Synchronous Buck Converters For Computer Processor Power

**• 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	$\pm 20$	V
$I_D$	Drain Current-Continuous	43	A
$I_{DM}$	Drain Current-Single Pulsed	170	A
$P_D$	Total Dissipation @ $T_c=25^\circ\text{C}$	40	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	3.75	$^\circ\text{C/W}$
$R_{th(j-a)}$	Channel-to-ambient thermal resistance	110	$^\circ\text{C/W}$



DIM	mm	
	MIN	MAX
A	6.40	6.60
B	5.20	5.40
C	1.15	1.35
D	5.70	6.10
F	0.65	
G	0.75	
H	2.10	2.50
J	2.10	2.40
K	0.40	0.60
L	0.90	1.10
Q	9.90	10.1

**isc N-Channel MOSFET Transistor****IRLR7807Z IRLR7807Z****ELECTRICAL CHARACTERISTICS** $T_C=25^{\circ}\text{C}$  unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP	MAX	UNIT
$BV_{DSS}$	Drain-Source Breakdown Voltage	$V_{GS}=0V; I_D=250\ \mu\text{A}$	30			V
$V_{GS(th)}$	Gate Threshold Voltage	$V_{DS}=V_{GS}; I_D=250\ \mu\text{A}$	1.35		2.25	V
$R_{DS(on)}$	Drain-Source On-Resistance	$V_{GS}=10V; I_D=15A$			13.8	$m\Omega$
$I_{GSS}$	Gate-Source Leakage Current	$V_{GS}=\pm 20V$			$\pm 0.1$	$\mu\text{A}$
$I_{DSS}$	Drain-Source Leakage Current	$V_{DS}=24V; V_{GS}=0V$			1	$\mu\text{A}$
$V_{SD}$	Diode forward voltage	$I_s=12A, V_{GS}=0V$			1.0	V

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