

**isc N-Channel MOSFET Transistor**
**IRLR3705Z, IIRLR3705Z**
**• FEATURES**

- Static drain-source on-resistance:  
 $R_{DS(on)} \leq 8.0m\Omega$
- Enhancement mode:
- 100% avalanche tested
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

**• DESCRIPTION**

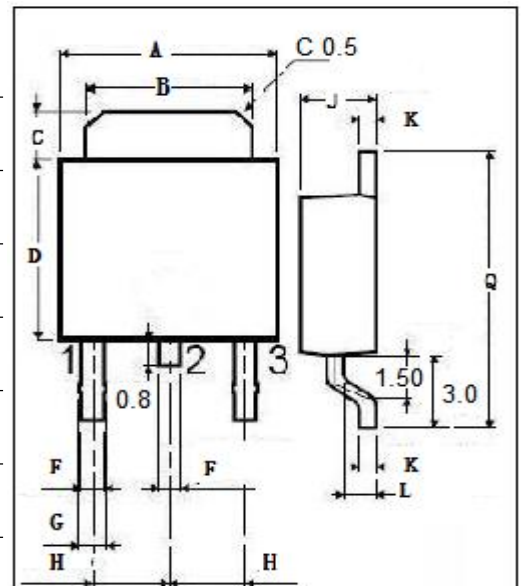
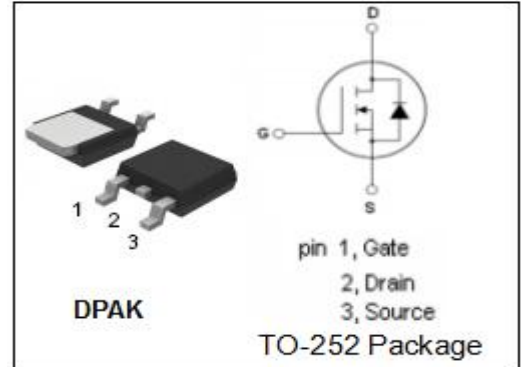
- Fast Switching

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

SYMBOL	PARAMETER	VALUE	UNIT
$V_{DS}$	Drain-Source Voltage	55	V
$V_{GS}$	Gate-Source Voltage	$\pm 16$	V
$I_D$	Drain Current-Continuous	89	A
$I_{DM}$	Drain Current-Single Pulsed	360	A
$P_D$	Total Dissipation @ $T_c=25^\circ\text{C}$	130	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	1.14	$^\circ\text{C/W}$
$R_{th(j-a)}$	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

## IRLR3705Z, IIRLR3705Z

## ELECTRICAL CHARACTERISTICS

T<sub>C</sub>=25°C unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP	MAX	UNIT
BV <sub>DSS</sub>	Drain-Source Breakdown Voltage	V <sub>GS</sub> =0V; I <sub>D</sub> =250 μA	55			V
V <sub>GS(th)</sub>	Gate Threshold Voltage	V <sub>DS</sub> =V <sub>GS</sub> ; I <sub>D</sub> =250 μA	1		3	V
R <sub>DS(on)</sub>	Drain-Source On-Resistance	V <sub>GS</sub> =10V; I <sub>D</sub> =42A			8	mΩ
I <sub>GSS</sub>	Gate-Source Leakage Current	V <sub>GS</sub> = ±16V			±0.2	μA
I <sub>DSS</sub>	Drain-Source Leakage Current	V <sub>DS</sub> =55V; V <sub>GS</sub> = 0V			20	μA
V <sub>SD</sub>	Diode forward voltage	I <sub>s</sub> =42A, V <sub>GS</sub> = 0V			1.3	V

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