

isc N-Channel MOSFET Transistor

IRLR3705Z, IIRLR3705Z

• FEATURES

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

• DESCRIPTION

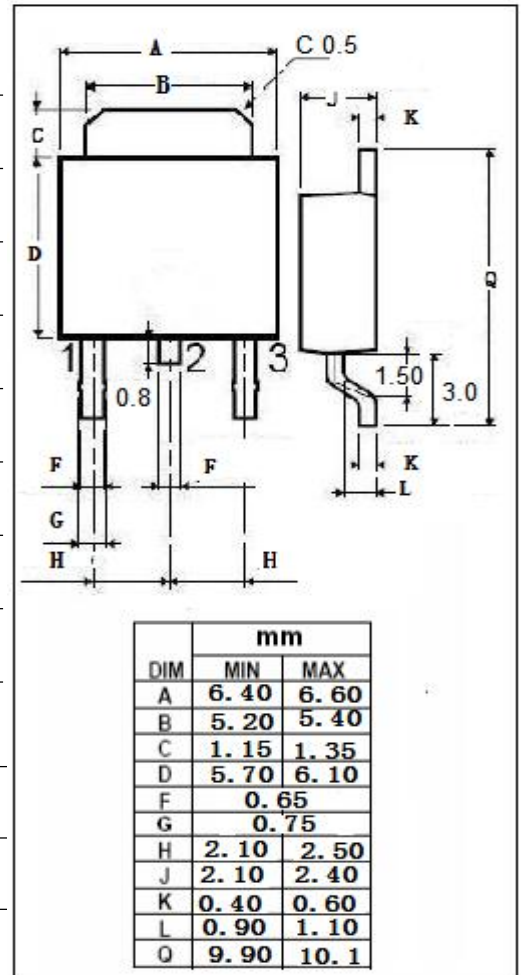
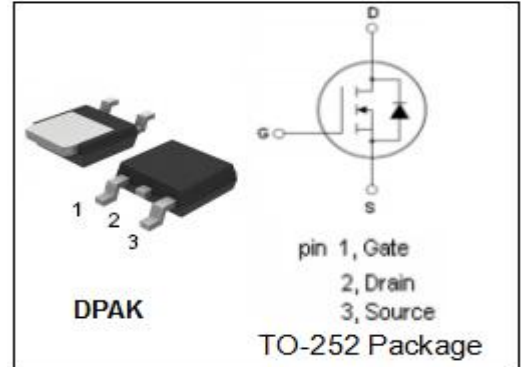
- Fast Switching

• 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	± 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	$^\circ\text{C/W}$



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

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