

isc N-Channel MOSFET Transistor

IRFR4104, IIRFR4104

• FEATURES

- Static drain-source on-resistance: $R_{DS(on)} \leq 5.5\text{m}\Omega$
- Enhancement mode:
- 100% avalanche tested
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

• DESCRIPTION

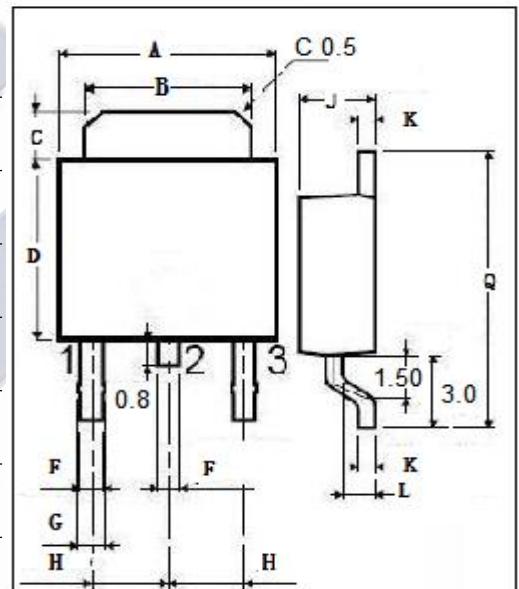
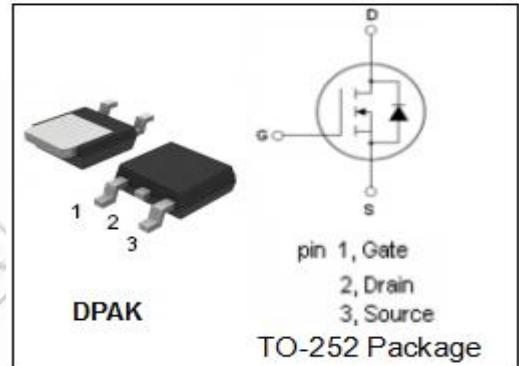
- Fast switching

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

SYMBOL	PARAMETER	VALUE	UNIT
V_{DSS}	Drain-Source Voltage	40	V
V_{GS}	Gate-Source Voltage	± 20	V
I_D	Drain Current-Continuous	119	A
I_{DM}	Drain Current-Single Pulsed	480	A
P_D	Total Dissipation @ $T_c=25^\circ\text{C}$	140	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	1.05	$^\circ\text{C}/\text{W}$
$R_{th(j-a)}$	Channel-to-ambient thermal resistance	110	$^\circ\text{C}/\text{W}$



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ELECTRICAL CHARACTERISTICS

 $T_c=25^\circ\text{C}$ unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP	MAX	UNIT
BV_{DSS}	Drain-Source Breakdown Voltage	$\text{V}_{\text{GS}}=0\text{V}; \text{I}_D=250 \mu\text{A}$	40			V
$\text{V}_{\text{GS(th)}}$	Gate Threshold Voltage	$\text{V}_{\text{DS}}=\text{V}_{\text{GS}}; \text{I}_D=250 \mu\text{A}$	2		4	V
$\text{R}_{\text{DS(on)}}$	Drain-Source On-Resistance	$\text{V}_{\text{GS}}=10\text{V}; \text{I}_D=42\text{A}$			5.5	$\text{m}\Omega$
I_{GSS}	Gate-Source Leakage Current	$\text{V}_{\text{GS}}= \pm 20\text{V}$			± 0.2	μA
I_{DSS}	Drain-Source Leakage Current	$\text{V}_{\text{DS}}=40\text{V}; \text{V}_{\text{GS}}= 0\text{V}$			20	μA
V_{SD}	Diode forward voltage	$\text{I}_s=42\text{A}, \text{V}_{\text{GS}} = 0\text{V}$			1.3	V