

isc N-Channel MOSFET Transistor

IRFU7440

• FEATURES

- With TO-251(IPAK) packaging
- High speed switching
- Easy to use
- 100% avalanche tested
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

• APPLICATIONS

- Power supply
- DC-DC converters
- Motor control
- Switching applications

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

SYMBOL	PARAMETER	VALUE	UNIT
V_{DS}	Drain-Source Voltage	40	V
V_{GS}	Gate-Source Voltage	± 20	V
I_D	Drain Current-Continuous	180	A
I_{DM}	Drain Current-Single Pulsed	760	A
P_D	Total Dissipation	140	W
T_j	Operating Junction Temperature	-55~175	$^{\circ}\text{C}$
T_{stg}	Storage Temperature	-55~175	$^{\circ}\text{C}$

• THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	MAX	UNIT
$R_{th(ch-c)}$	Channel-to-case thermal resistance	1.05	$^{\circ}\text{C/W}$
$R_{th(ch-a)}$	Channel-to-ambient thermal resistance	50	$^{\circ}\text{C/W}$



isc N-Channel MOSFET Transistor**IRFU7440****ELECTRICAL CHARACTERISTICS****T_C=25°C unless otherwise specified**

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP	MAX	UNIT
BV _{DSS}	Drain-Source Breakdown Voltage	V _{GS} =0V; I _D = 0.25mA	40			V
V _{GS(th)}	Gate Threshold Voltage	V _{DS} =V _{GS} ; I _D =0.1mA	2.2		3.9	V
R _{DS(on)}	Drain-Source On-Resistance	V _{GS} = 10V; I _D =90A		1.9	2.4	mΩ
I _{GSS}	Gate-Source Leakage Current	V _{GS} = ±20V; V _{DS} = 0V			±0.1	μA
I _{DSS}	Drain-Source Leakage Current	V _{DS} = 40V; V _{GS} = 0V; T _j =25°C V _{DS} = 40V; V _{GS} = 0V; T _j =125°C			1 150	μA
V _{SDF}	Diode forward voltage	I _{SD} =90A, V _{GS} =0V			1.3	V

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