

# Isc N-Channel MOSFET Transistor

# IRFS38N20D

### • FEATURES

- With To-262 package
- Low input capacitance and gate charge
- Low gate input resistance
- 100% avalanche tested
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

### • APPLICATIONS

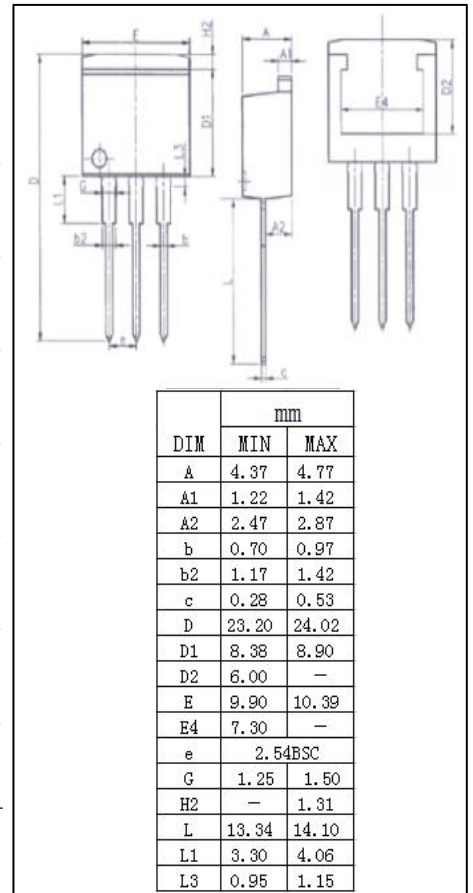
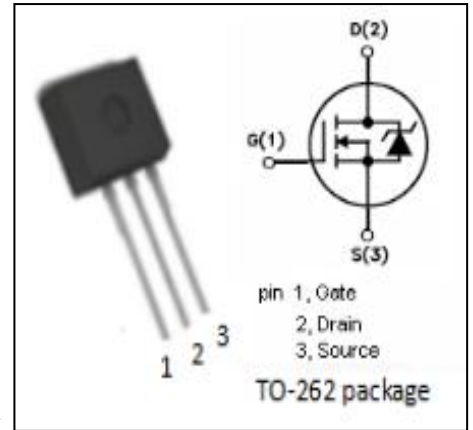
- Switching applications

### • ABSOLUTE MAXIMUM RATINGS(T<sub>a</sub>=25°C)

SYMBOL	PARAMETER	VALUE	UNIT
V <sub>DSS</sub>	Drain-Source Voltage	200	V
V <sub>GSS</sub>	Gate-Source Voltage	±30	V
I <sub>D</sub>	Drain Current-Continuous T <sub>c</sub> =25°C T <sub>c</sub> =100°C	43 30	A
I <sub>DM</sub>	Drain Current-Single Pulsed	180	A
P <sub>D</sub>	Total Dissipation @T <sub>c</sub> =25°C	300	W
T <sub>ch</sub>	Max. Operating Junction Temperature	175	°C
T <sub>stg</sub>	Storage Temperature	-55~175	°C

### • THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	MAX	UNIT
R <sub>th(ch-c)</sub>	Channel-to-case thermal resistance	0.47	°C/W



**Isc N-Channel MOSFET Transistor****IRFS38N20D****ELECTRICAL CHARACTERISTICS** $T_C=25^{\circ}\text{C}$  unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP	MAX	UNIT
$BV_{DSS}$	Drain-Source Breakdown Voltage	$V_{GS}=0V; I_D=0.25mA$	200			V
$V_{GS(th)}$	Gate Threshold Voltage	$V_{DS}=V_{GS}; I_D=0.25mA$	3.0		5.0	V
$R_{DS(on)}$	Drain-Source On-Resistance	$V_{GS}=10V; I_D=26A$			54	$m\Omega$
$I_{GSS}$	Gate-Source Leakage Current	$V_{GS}=\pm 30V; V_{DS}=0V$			$\pm 0.1$	$\mu A$
$I_{DSS}$	Drain-Source Leakage Current	$V_{DS}=200V; V_{GS}=0V; T_j=25^{\circ}\text{C}$ $V_{DS}=160V; V_{GS}=0V; T_j=125^{\circ}\text{C}$			25 250	$\mu A$
$V_{SDF}$	Diode forward voltage	$I_{SD}=26A, V_{GS}=0V$			1.5	V

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