

# isc N-Channel MOSFET Transistor

**IPI041N12N3**
**• FEATURES**

- Static drain-source on-resistance:  
 $R_{DS(on)} \leq 4.1m\Omega$
- Enhancement mode
- Fast Switching Speed
- 100% avalanche tested
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

**• DESCRIPTION**

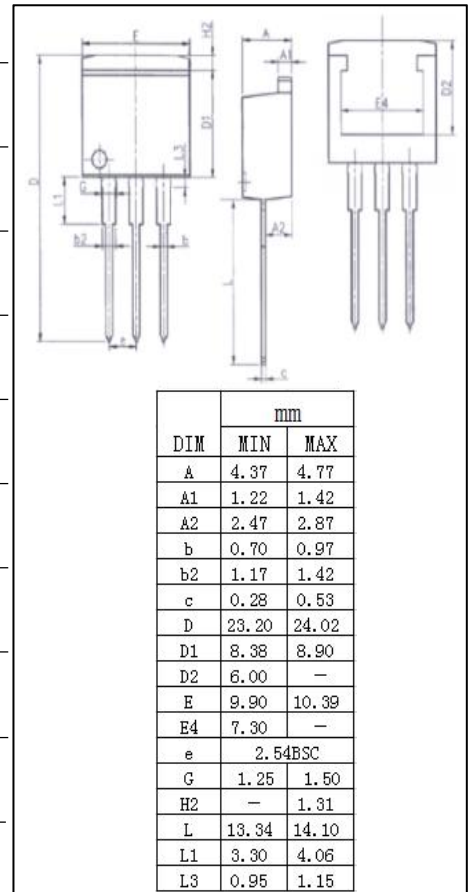
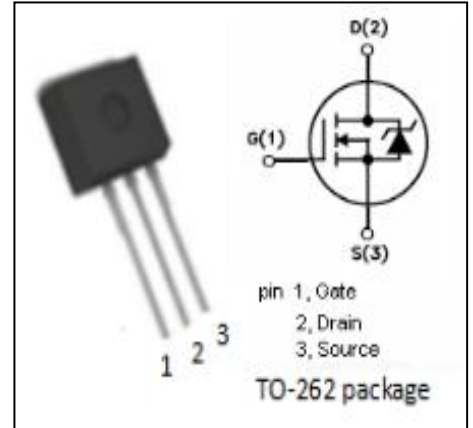
- Ideal for high-frequency switching and synchronous rectification

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

SYMBOL	PARAMETER	VALUE	UNIT
$V_{DS}$	Drain-Source Voltage	120	V
$V_{GS}$	Gate-Source Voltage	$\pm 20$	V
$I_D$	Drain Current-Continuous	120	A
$I_{DM}$	Drain Current-Single Pulsed	480	A
$P_D$	Total Dissipation @ $T_c=25^\circ C$	300	W
$T_j$	Max. Operating Junction Temperature	175	$^\circ C$
$T_{stg}$	Storage Temperature	-55~175	$^\circ C$

**• THERMAL CHARACTERISTICS**

SYMBOL	PARAMETER	MAX	UNIT
$R_{th(ch-c)}$	Channel-to-case thermal resistance	0.5	$^\circ C/W$



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## 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> =1mA	120			V
V <sub>GS(th)</sub>	Gate Threshold Voltage	V <sub>DS</sub> =V <sub>GS</sub> ; I <sub>D</sub> =270 μ A	2		4	V
R <sub>DS(on)</sub>	Drain-Source On-Resistance	V <sub>GS</sub> =10V; I <sub>D</sub> =100A			4.1	mΩ
I <sub>GSS</sub>	Gate-Source Leakage Current	V <sub>GS</sub> = 20V;V <sub>DS</sub> =0V			0.1	μ A
I <sub>DSS</sub>	Drain-Source Leakage Current	V <sub>DS</sub> =100V; V <sub>GS</sub> = 0V			1	μ A
V <sub>SD</sub>	Diode forward voltage	I <sub>F</sub> =100A; V <sub>GS</sub> = 0V			1.2	V

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