

**isc N-Channel MOSFET Transistor**

**IPB057N06N**

**• FEATURES**

- With TO-263( D2PAK ) packaging
- High speed switching
- Low gate input resistance
- Standard level gate drive
- Easy to use
- 100% avalanche tested
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

**• APPLICATIONS**

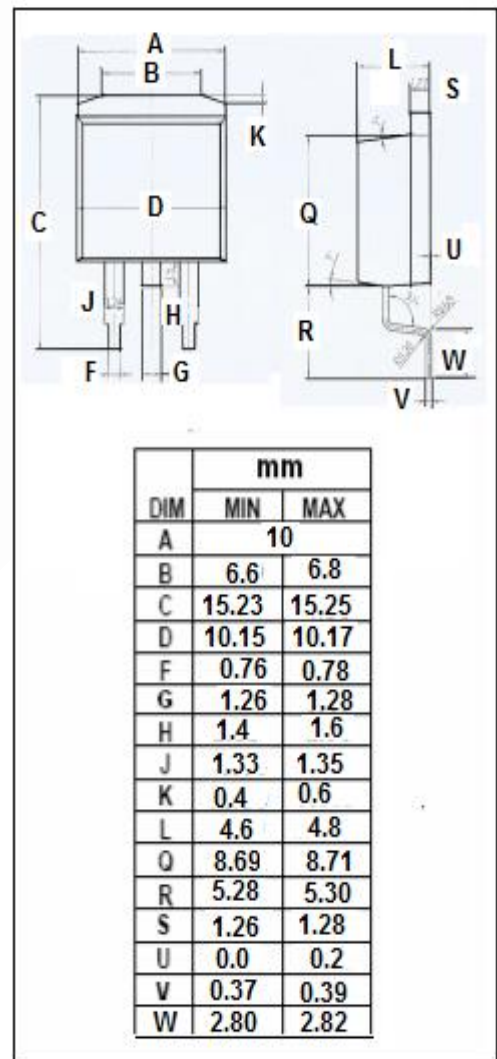
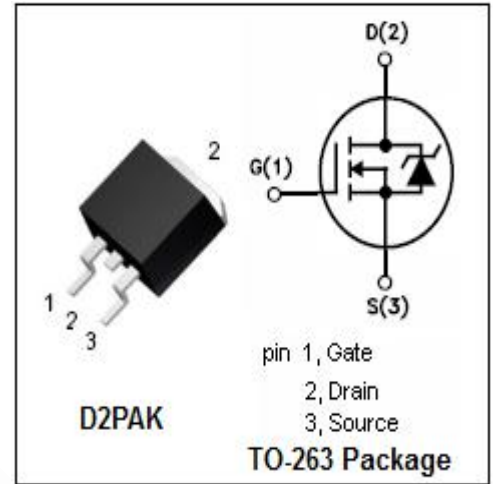
- Power supply
- Switching applications

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

SYMBOL	PARAMETER	VALUE	UNIT
V <sub>DSS</sub>	Drain-Source Voltage	60	V
V <sub>GSS</sub>	Gate-Source Voltage	±20	V
I <sub>D</sub>	Drain Current-Continuous; T <sub>c</sub> =25°C T <sub>c</sub> =100°C	45	A
I <sub>DM</sub>	Drain Current-Single Pulsed	180	A
P <sub>D</sub>	Total Dissipation	83	W
T <sub>j</sub>	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	1.8	°C/W
R <sub>th(ch-a)</sub>	Channel-to-ambient thermal resistance	40	°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	60			V
V <sub>GS(th)</sub>	Gate Threshold Voltage	V <sub>DS</sub> =V <sub>GS</sub> ; I <sub>D</sub> =0.036mA	2.1		3.3	V
R <sub>DS(on)</sub>	Drain-Source On-Resistance	V <sub>GS</sub> = 10V; I <sub>D</sub> =45A		4.9	5.7	mΩ
I <sub>GSS</sub>	Gate-Source Leakage Current	V <sub>GS</sub> =±20V; V <sub>DS</sub> = 0V			±0.2	μA
I <sub>DSS</sub>	Drain-Source Leakage Current	V <sub>DS</sub> =60V; V <sub>GS</sub> = 0V; T <sub>C</sub> =25°C V <sub>DS</sub> =60V; V <sub>GS</sub> = 0V; T <sub>C</sub> =125°C			1 100	μA
V <sub>SDF</sub>	Diode forward voltage	I <sub>SD</sub> =45A, V <sub>GS</sub> = 0 V		1.0	1.2	V