

# 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

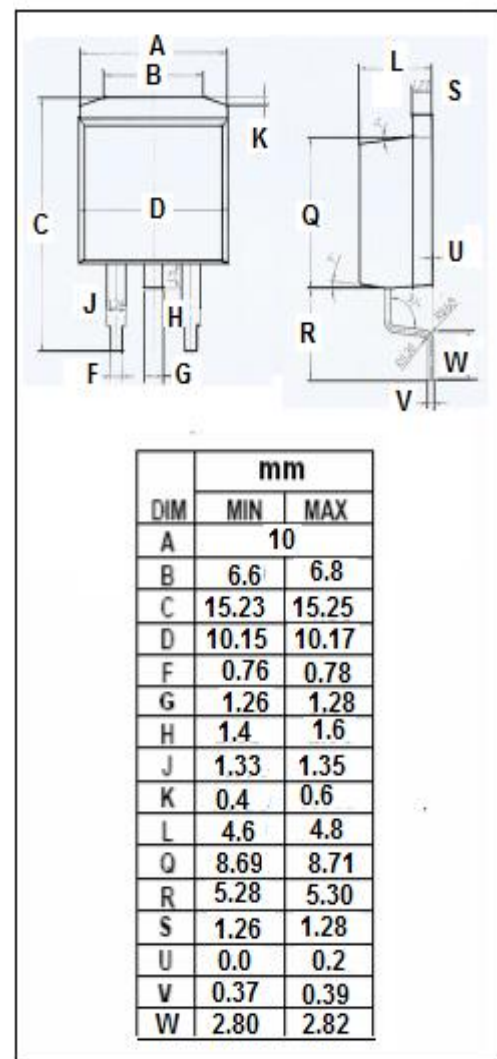
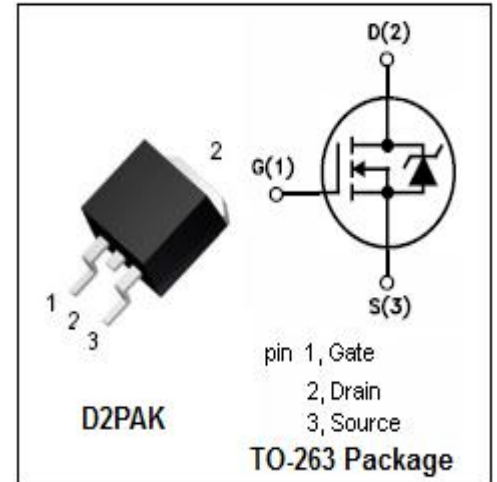
- Power supply
- Switching applications

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

SYMBOL	PARAMETER	VALUE	UNIT
$V_{DSS}$	Drain-Source Voltage	60	V
$V_{GSS}$	Gate-Source Voltage	$\pm 20$	V
$I_D$	Drain Current-Continuous; $T_c=25^{\circ}\text{C}$ $T_c=100^{\circ}\text{C}$	45	A
$I_{DM}$	Drain Current-Single Pulsed	180	A
$P_D$	Total Dissipation	83	W
$T_j$	Operating Junction Temperature	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	1.8	$^{\circ}\text{C}/\text{W}$
$R_{th(ch-a)}$	Channel-to-ambient thermal resistance	40	$^{\circ}\text{C}/\text{W}$



**isc N-Channel MOSFET Transistor****IPB057N06N****ELECTRICAL CHARACTERISTICS** $T_C=25^{\circ}\text{C}$  unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP	MAX	UNIT
$BV_{DSS}$	Drain-Source Breakdown Voltage	$V_{GS}=0V; I_D=1mA$	60			V
$V_{GS(th)}$	Gate Threshold Voltage	$V_{DS}=V_{GS}; I_D=0.036mA$	2.1		3.3	V
$R_{DS(on)}$	Drain-Source On-Resistance	$V_{GS}=10V; I_D=45A$		4.9	5.7	$m\Omega$
$I_{GSS}$	Gate-Source Leakage Current	$V_{GS}=\pm 20V; V_{DS}=0V$			$\pm 0.2$	$\mu A$
$I_{DSS}$	Drain-Source Leakage Current	$V_{DS}=60V; V_{GS}=0V; T_C=25^{\circ}\text{C}$ $V_{DS}=60V; V_{GS}=0V; T_C=125^{\circ}\text{C}$			1 100	$\mu A$
$V_{SDF}$	Diode forward voltage	$I_{SD}=45A, V_{GS}=0V$		1.0	1.2	V

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