

isc N-Channel MOSFET Transistor

STD12NM50ND

FEATURES

- Drain Current $-I_D = 11A @ T_C = 25^\circ C$
- Drain Source Voltage-
: $V_{DS} = 500V (Min)$
- Static Drain-Source On-Resistance
: $R_{DS(on)} = 380m\Omega (Max)$
- 100% avalanche tested
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

APPLICATIONS

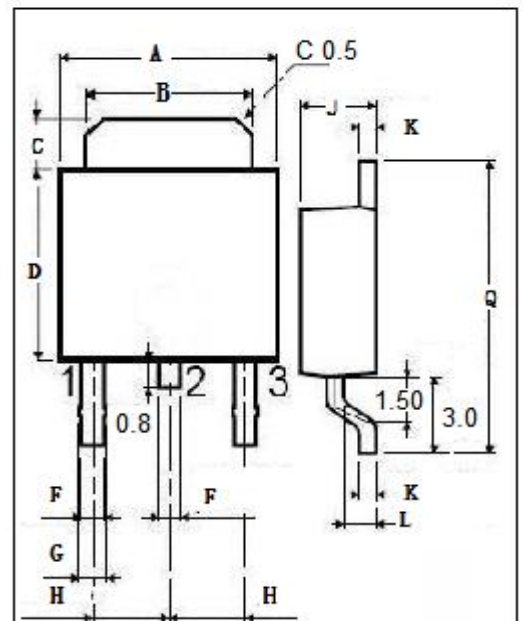
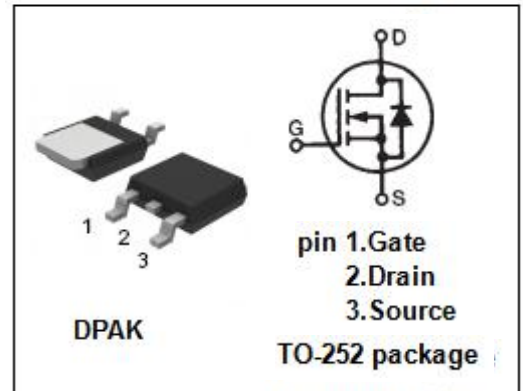
- Switching application

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

SYMBOL	PARAMETER	VALUE	UNIT
V_{DS}	Drain-Source Voltage	500	V
V_{GS}	Gate-Source Voltage-Continuous	± 25	V
I_D	Drain Current-Continuous	11	A
I_{DM}	Drain Current-Single Pluse	44	A
P_D	Total Dissipation @ $T_C = 25^\circ C$	100	W
T_J	Max. Operating Junction Temperature	150	$^\circ C$
T_{stg}	Storage Temperature	-55~150	$^\circ C$

THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	MAX	UNIT
$R_{th j-c}$	Thermal Resistance, Junction to Case	1.25	$^\circ C/W$



DIM	mm	
	MIN	MAX
A	6.40	6.60
B	5.20	5.40
C	1.15	1.35
D	5.70	6.10
F	0.65	
G	0.75	
H	2.10	2.50
J	2.10	2.40
K	0.40	0.60
L	0.90	1.10
Q	9.90	10.1

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ELECTRICAL CHARACTERISTICS

 $T_c=25^{\circ}\text{C}$ unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN	MAX	UNIT
$V_{(BR)DSS}$	Drain-Source Breakdown Voltage	$V_{GS}=0$; $I_D=1\text{mA}$	500		V
$V_{GS(th)}$	Gate Threshold Voltage	$V_{DS}=V_{GS}$; $I_D=0.25\text{mA}$	3	5	V
$R_{DS(on)}$	Drain-Source On-Resistance	$V_{GS}=10\text{V}$; $I_D=5.5\text{A}$		380	$\text{m}\Omega$
I_{GSS}	Gate-Body Leakage Current	$V_{GS}=\pm 20\text{V}$; $V_{DS}=0$		± 100	nA
I_{DSS}	Zero Gate Voltage Drain Current	$V_{DS}=500\text{V}$; $V_{GS}=0$ $V_{DS}=500\text{V}$; $V_{GS}=0$; $T_j=125^{\circ}\text{C}$		1 100	μA
V_{SD}	Forward On-Voltage	$I_S=11\text{A}$; $V_{GS}=0$		1.6	V

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