

Isc N-Channel MOSFET Transistor

SiHD12N50E

• FEATURES

- With To-252(DPAK) 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

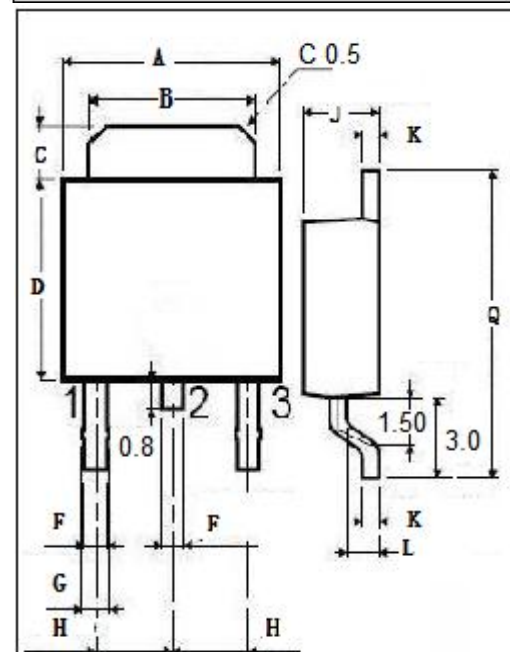
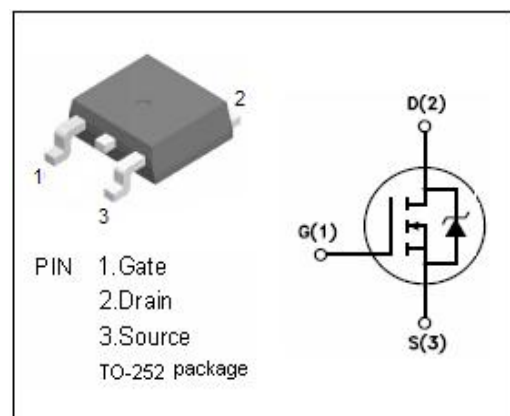
- Switching applications

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

SYMBOL	PARAMETER	VALUE	UNIT
V_{DS}	Drain-Source Voltage	500	V
V_{GS}	Gate-Source Voltage	± 30	V
I_D	Drain Current-Continuous@ $T_c=25^{\circ}\text{C}$ $T_c=100^{\circ}\text{C}$	10.5 6.6	A
I_{DM}	Drain Current-Single Pulsed	21	A
P_D	Total Dissipation @ $T_c=25^{\circ}\text{C}$	114	W
T_{ch}	Max. Operating Junction Temperature	150	$^{\circ}\text{C}$
T_{stg}	Storage Temperature	-55~150	$^{\circ}\text{C}$

• THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	MAX	UNIT
$R_{th(ch-c)}$	Channel-to-case thermal resistance	62	$^{\circ}\text{C/W}$
$R_{th(ch-a)}$	Channel-to-ambient thermal resistance	1.1	$^{\circ}\text{C/W}$



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

Isc N-Channel MOSFET Transistor**SiHD12N50E****ELECTRICAL CHARACTERISTICS** $T_C=25^{\circ}\text{C}$ unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP	MAX	UNIT
BV_{DSS}	Drain-Source Breakdown Voltage	$V_{GS}=0V$; $I_D=0.25mA$	500			V
$V_{GS(th)}$	Gate Threshold Voltage	$V_{DS}=V_{GS}$; $I_D=0.25mA$	2.0		4.0	V
$R_{DS(on)}$	Drain-Source On-Resistance	$V_{GS}=10V$; $I_D=6A$		330	380	$m\Omega$
I_{GSS}	Gate-Source Leakage Current	$V_{GS}=\pm 20V$; $V_{DS}=0V$			± 0.1	μA
I_{DSS}	Drain-Source Leakage Current	$V_{DS}=500V$; $V_{GS}=0V$			1	μA
V_{SDF}	Diode forward voltage	$I_{SD}=7.5A$, $V_{GS}=0V$			1.2	V

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