

**isc N-Channel MOSFET Transistor**
**SPP12N50C3, ISPP12N50C3**
**• FEATURES**

- Static drain-source on-resistance:  
 $R_{DS(on)} \leq 0.38\Omega$
- Enhancement mode
- Fast Switching Speed
- 100% avalanche tested
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

**• DESCRIPTION**

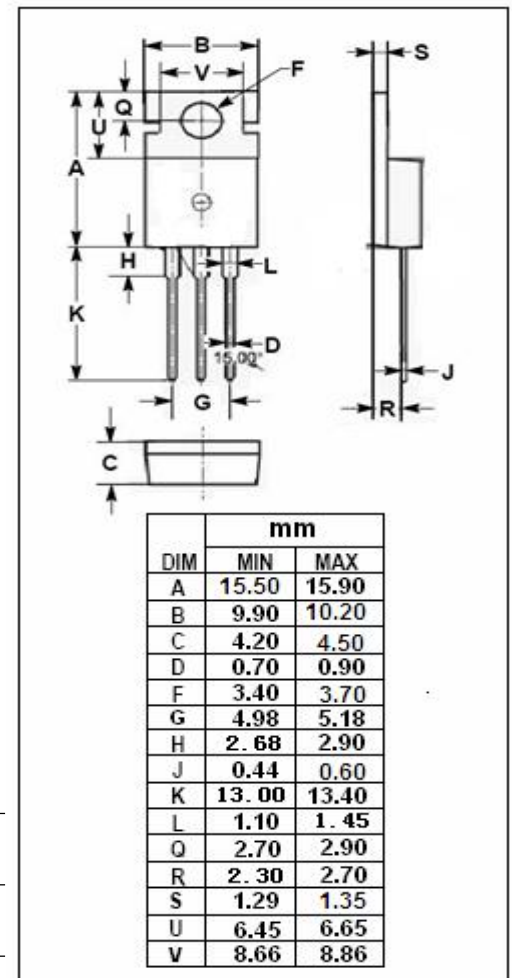
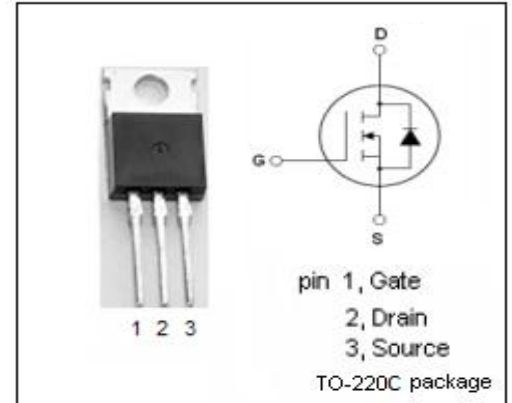
- New revolutionary high voltage technology
- Ultra low effective capacitance

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

SYMBOL	PARAMETER	VALUE	UNIT
$V_{DSS}$	Drain-Source Voltage	500	V
$V_{GS}$	Gate-Source Voltage	$\pm 20$	V
$I_D$	Drain Current-Continuous	11.6	A
$I_{DM}$	Drain Current-Single Pulsed	34.8	A
$P_D$	Total Dissipation @ $T_c=25^\circ\text{C}$	125	W
$T_j$	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	1	$^\circ\text{C/W}$
$R_{th(ch-a)}$	Channel-to-ambient thermal resistance	62	$^\circ\text{C/W}$



## isc N-Channel MOSFET Transistor

## SPP12N50C3, ISPP12N50C3

## ELECTRICAL CHARACTERISTICS

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

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP	MAX	UNIT
$BV_{DSS}$	Drain-Source Breakdown Voltage	$V_{GS}=0V; I_D=250\ \mu\text{A}$	500			V
$V_{GS(th)}$	Gate Threshold Voltage	$V_{DS}=V_{GS}; I_D=500\ \mu\text{A}$	2.1		3.9	V
$R_{DS(on)}$	Drain-Source On-Resistance	$V_{GS}=10V; I_D=7A$			0.38	$\Omega$
$I_{GSS}$	Gate-Source Leakage Current	$V_{GS}=20V; V_{DS}=0V$			0.1	$\mu\text{A}$
$I_{DSS}$	Drain-Source Leakage Current	$V_{DS}=500V; V_{GS}=0V$			1	$\mu\text{A}$
$V_{SD}$	Diode forward voltage	$I_F=I_S; V_{GS}=0V$			1.2	V

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