

isc N-Channel MOSFET Transistor

SPP12N50C3, ISPP12N50C3

• FEATURES

- Static drain-source on-resistance:
 $R_{DS(on)} \leq 0.6\Omega$
- Enhancement mode
- Fast Switching Speed
- 100% avalanche tested
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

• DESCRIPTION

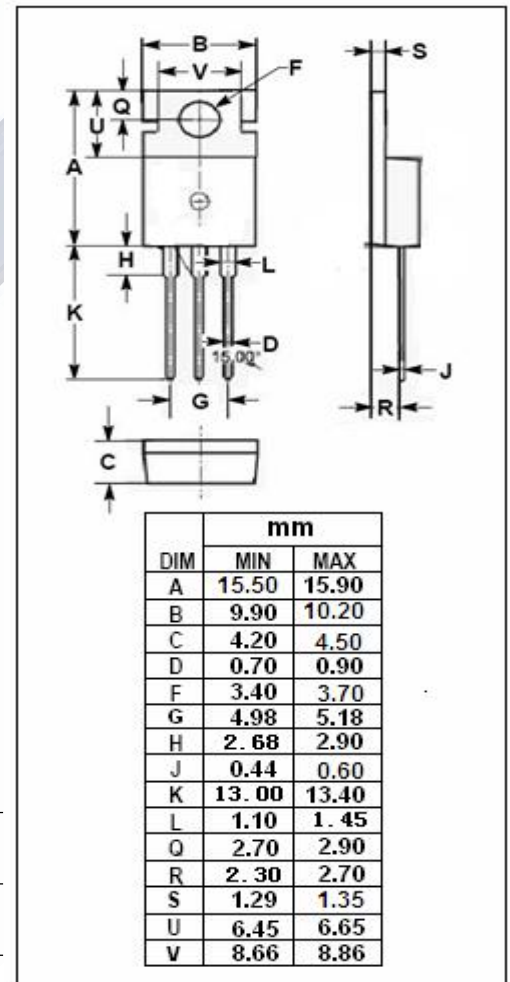
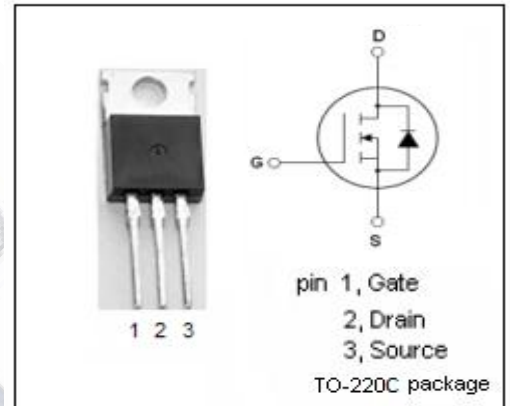
- New revolutionary high voltage technology
- Ultra low effective capacitance

• 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	± 20	V
I_D	Drain Current-Continuous	7.6	A
I_{DM}	Drain Current-Single Pulsed	22.8	A
P_D	Total Dissipation @ $T_c=25^\circ\text{C}$	83	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	1.5	$^\circ\text{C/W}$
$R_{th(ch-a)}$	Channel-to-ambient thermal resistance	62	$^\circ\text{C/W}$



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ELECTRICAL CHARACTERISTICS

 T_C=25°C unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP	MAX	UNIT
BV _{DSS}	Drain-Source Breakdown Voltage	V _{GS} =0V; I _D =250 μ A	500			V
V _{GS(th)}	Gate Threshold Voltage	V _{DS} =V _{GS} ; I _D =350 μ A	2.1		3.9	V
R _{DS(on)}	Drain-Source On-Resistance	V _{GS} =10V; I _D =4.6A			0.6	Ω
I _{GSS}	Gate-Source Leakage Current	V _{GS} =20V; V _{DS} =0V			0.1	μ A
I _{DSS}	Drain-Source Leakage Current	V _{DS} =500V; V _{GS} = 0V			1	μ A
V _{SD}	Diode forward voltage	I _F =I _S ; V _{GS} = 0V			1.2	V