

**isc N-Channel MOSFET Transistor**

**SPP20N60CFD, ISPP20N60CFD**

**• FEATURES**

- Static drain-source on-resistance:  
 $R_{DS(on)} \leq 0.22\Omega$
- Enhancement mode
- Fast Switching Speed
- 100% avalanche tested
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

**• DESCRIPTION**

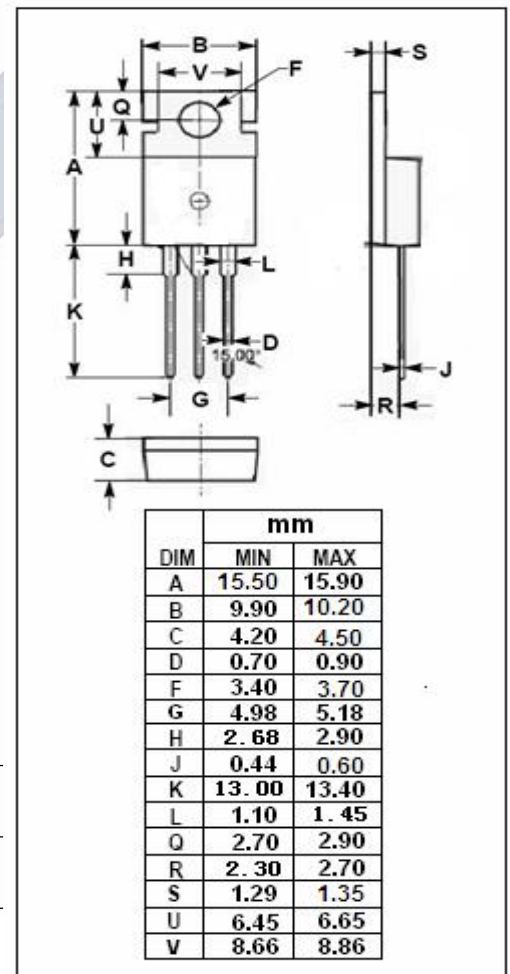
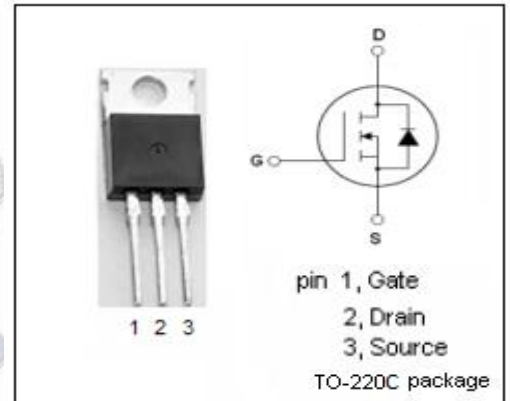
- Ultra low gate charge
- High peak current capability

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

SYMBOL	PARAMETER	VALUE	UNIT
$V_{DSS}$	Drain-Source Voltage	600	V
$V_{GS}$	Gate-Source Voltage	$\pm 20$	V
$I_D$	Drain Current-Continuous	20.7	A
$I_{DM}$	Drain Current-Single Pulsed	52	A
$P_D$	Total Dissipation @ $T_c=25^\circ\text{C}$	208	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	0.6	$^\circ\text{C/W}$
$R_{th(ch-a)}$	Channel-to-ambient thermal resistance	62	$^\circ\text{C/W}$



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**ELECTRICAL CHARACTERISTICS**

 T<sub>C</sub>=25°C unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP	MAX	UNIT
BV <sub>DSS</sub>	Drain-Source Breakdown Voltage	V <sub>GS</sub> =0V; I <sub>D</sub> =0.25mA	600			V
V <sub>GS(th)</sub>	Gate Threshold Voltage	V <sub>DS</sub> =V <sub>GS</sub> ; I <sub>D</sub> =1mA	3		5	V
R <sub>DS(on)</sub>	Drain-Source On-Resistance	V <sub>GS</sub> =10V; I <sub>D</sub> =13.1A			0.22	Ω
I <sub>GSS</sub>	Gate-Source Leakage Current	V <sub>GS</sub> =20V; V <sub>DS</sub> =0V			0.1	μA
I <sub>DSS</sub>	Drain-Source Leakage Current	V <sub>DS</sub> =600V; V <sub>GS</sub> = 0V		2.1		μA
V <sub>SD</sub>	Diode forward voltage	I <sub>F</sub> =I <sub>S</sub> ; V <sub>GS</sub> = 0V			1.2	V