

# isc N-Channel MOSFET Transistor

# STP30NF20

**• FEATURES**

- With TO-220 packaging
- High speed switching
- Very high commutation ruggedness
- Easy to use
- 100% avalanche tested
- Minimum Lot-to-Lot variations for robust device performance and reliable operationz

**• APPLICATIONS**

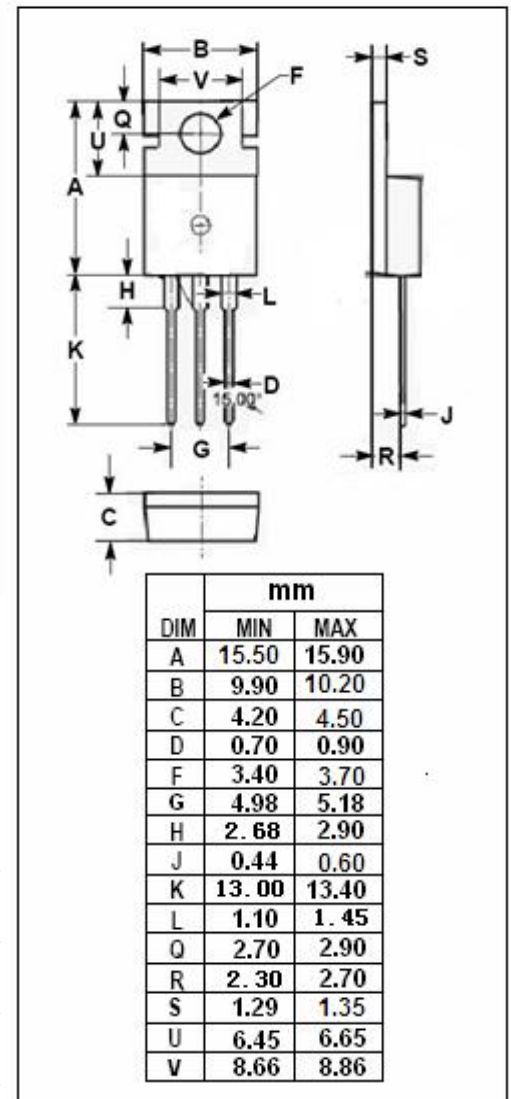
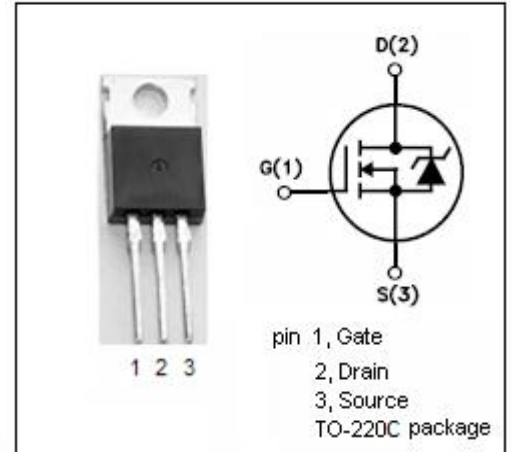
- PFC stages
- LCD & PDP TV
- Power supply
- Switching applications

**• ABSOLUTE MAXIMUM RATINGS(T<sub>a</sub>=25°C)**

SYMBOL	PARAMETER	VALUE	UNIT
V <sub>DSS</sub>	Drain-Source Voltage	200	V
V <sub>GSS</sub>	Gate-Source Voltage	±20	V
I <sub>D</sub>	Drain Current-Continuous@T <sub>c</sub> =25°C T <sub>c</sub> =100°C	30 19	A
I <sub>DM</sub>	Drain Current-Single Pulsed	120	A
P <sub>D</sub>	Total Dissipation	125	W
T <sub>j</sub>	Operating Junction Temperature	-55~150	°C
T <sub>stg</sub>	Storage Temperature	-55~150	°C

**• THERMAL CHARACTERISTICS**

SYMBOL	PARAMETER	MAX	UNIT
Rth(ch-c)	Channel-to-case thermal resistance	1	°C/W
Rth(ch-a)	Channel-to-ambient thermal resistance	62.5	°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> = 1mA	200			V
V <sub>GS(th)</sub>	Gate Threshold Voltage	V <sub>DS</sub> =±20V; I <sub>D</sub> =0.25mA	2.0		4.0	V
R <sub>DS(on)</sub>	Drain-Source On-Resistance	V <sub>GS</sub> = 10V; I <sub>D</sub> =15A		65	75	mΩ
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> = 200V; V <sub>GS</sub> = 0V; T <sub>J</sub> =25°C V <sub>DS</sub> = 200V; V <sub>GS</sub> = 0V; T <sub>J</sub> =125°C			1 10	μA
V <sub>SDF</sub>	Diode forward voltage	I <sub>SD</sub> =30A, V <sub>GS</sub> = 0 V			1.5	V