

# Isc N-Channel MOSFET Transistor

# IPA50R190CE

### • FEATURES

- With TO-220F package
- Low input capacitance and gate charge
- Low gate input resistance
- Reduced switching and conduction losses
- 100% avalanche tested
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

### • APPLICATIONS

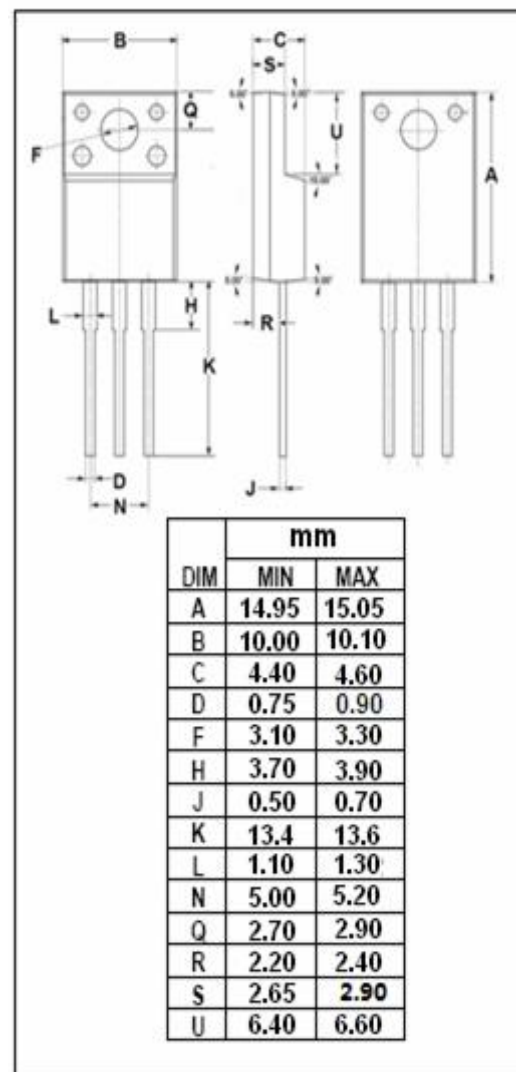
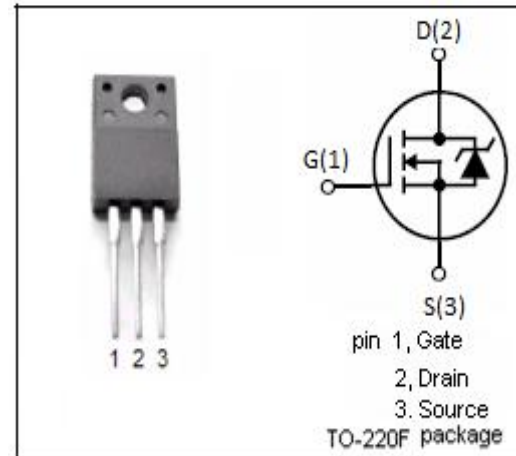
- Switching applications

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

SYMBOL	PARAMETER	VALUE	UNIT
V <sub>DSS</sub>	Drain-Source Voltage	500	V
V <sub>GSS</sub>	Gate-Source Voltage	±30	V
I <sub>D</sub>	Drain Current-Continuous @T <sub>c</sub> =25°C (V <sub>GS</sub> at 10V) T <sub>c</sub> =100°C	24.8 15.7	A
I <sub>DM</sub>	Drain Current-Single Pulsed	63	A
P <sub>D</sub>	Total Dissipation @T <sub>c</sub> =25°C	32	W
T <sub>j</sub>	Max. Operating Junction Temperature	150	°C
T <sub>stg</sub>	Storage Temperature	-40~150	°C

### • THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	MAX	UNIT
R <sub>th(ch-c)</sub>	Channel-to-case thermal resistance	3.9	°C/W
R <sub>th(ch-a)</sub>	Channel-to-ambient thermal resistance	80	°C/W



**Isc N-Channel MOSFET Transistor**
**IPA50R190CE**
**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	500			V
V <sub>GS(th)</sub>	Gate Threshold Voltage	V <sub>DS</sub> = V <sub>GS</sub> ; I <sub>D</sub> =0.51mA	2.5		3.5	V
R <sub>DS(on)</sub>	Drain-Source On-Resistance	V <sub>GS</sub> = 10V; I <sub>D</sub> =6.2A		170	190	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> = 500V; V <sub>GS</sub> = 0V; T <sub>J</sub> =25°C V <sub>DS</sub> = 500V; V <sub>GS</sub> = 0V; T <sub>J</sub> =125°C			2 200	μA
V <sub>SDF</sub>	Diode forward voltage	I <sub>SD</sub> =7.7A, V <sub>GS</sub> = 0 V			1.2	V

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