

# Isc N-Channel MOSFET Transistor

# IPA60R190E6

### • 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

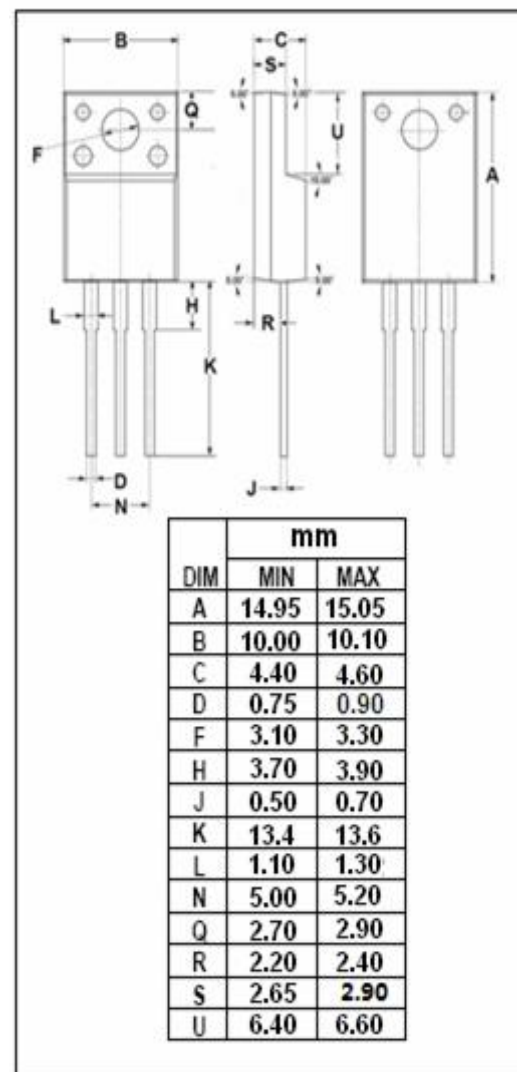
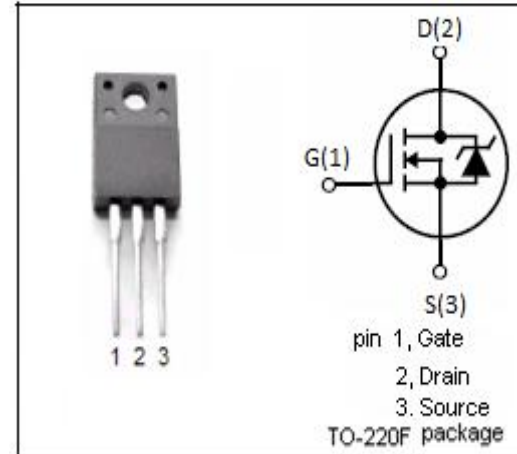
- Switching applications

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

SYMBOL	PARAMETER	VALUE	UNIT
V <sub>DSS</sub>	Drain-Source Voltage	600	V
V <sub>GSS</sub>	Gate-Source Voltage	±20	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	20.2 12.8	A
I <sub>DM</sub>	Drain Current-Single Pulsed	59	A
P <sub>D</sub>	Total Dissipation @T <sub>c</sub> =25°C	34	W
T <sub>j</sub>	Max. Operating Junction Temperature	-55~150	°C
T <sub>stg</sub>	Storage Temperature	-55~150	°C

### • THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	MAX	UNIT
R <sub>th(ch-c)</sub>	Channel-to-case thermal resistance	3.7	°C/W
R <sub>th(ch-a)</sub>	Channel-to-ambient thermal resistance	80	°C/W



**Isc N-Channel MOSFET Transistor****IPA60R190E6****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> =0.63mA	2.5	3	3.5	V
R <sub>DS(on)</sub>	Drain-Source On-Resistance	V <sub>GS</sub> = 10V; I <sub>D</sub> =9.5A; T <sub>j</sub> =25°C V <sub>GS</sub> = 10V; I <sub>D</sub> =9.5A; T <sub>j</sub> =150°C		0.17 0.44	0.19	Ω
I <sub>GSS</sub>	Gate-Source Leakage Current	V <sub>GS</sub> = ±20V; V <sub>DS</sub> = 0V			±100	nA
I <sub>DSS</sub>	Drain-Source Leakage Current	V <sub>DS</sub> = 600V; V <sub>GS</sub> = 0V; T <sub>j</sub> =25°C V <sub>DS</sub> = 600V; V <sub>GS</sub> = 0V; T <sub>j</sub> =150°C		10	1	μA
V <sub>SDF</sub>	Diode forward voltage	I <sub>SD</sub> =9.5A, V <sub>GS</sub> = 0 V		0.9		V

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