

# Isc N-Channel MOSFET Transistor

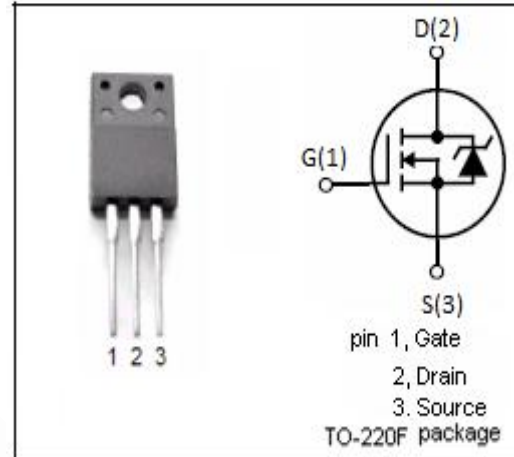
# IPA80R650CE

**• FEATURES**

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

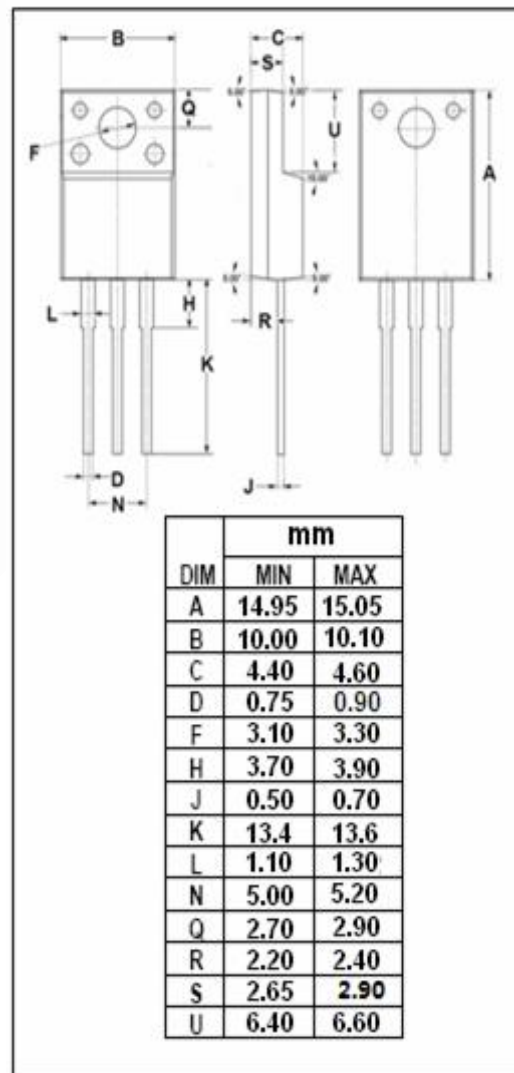
**• APPLICATIONS**

- Switching applications



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

SYMBOL	PARAMETER	VALUE	UNIT
V <sub>DSS</sub>	Drain-Source Voltage	800	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	8 5.1	A
I <sub>DM</sub>	Drain Current-Single Pulsed	24	A
P <sub>D</sub>	Total Dissipation @T <sub>c</sub> =25°C	33	W
T <sub>j</sub>	Max. Operating Junction Temperature	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	3.8	°C/W
R <sub>th(ch-a)</sub>	Channel-to-ambient thermal resistance	80	°C/W

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**IPA80R650CE**

**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	800			V
V <sub>GS(th)</sub>	Gate Threshold Voltage	V <sub>DS</sub> = V <sub>GS</sub> ; I <sub>D</sub> =0.47mA	2.1		3.9	V
R <sub>DS(on)</sub>	Drain-Source On-Resistance	V <sub>GS</sub> = 10V; I <sub>D</sub> =5.1A		560	650	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> = 800V; V <sub>GS</sub> = 0V; T <sub>J</sub> =25°C V <sub>DS</sub> = 800V; V <sub>GS</sub> = 0V; T <sub>J</sub> =150°C			1 100	μA
V <sub>SDF</sub>	Diode forward voltage	I <sub>SD</sub> =8A, V <sub>GS</sub> = 0V		1.0		V