

# Isc N-Channel MOSFET Transistor

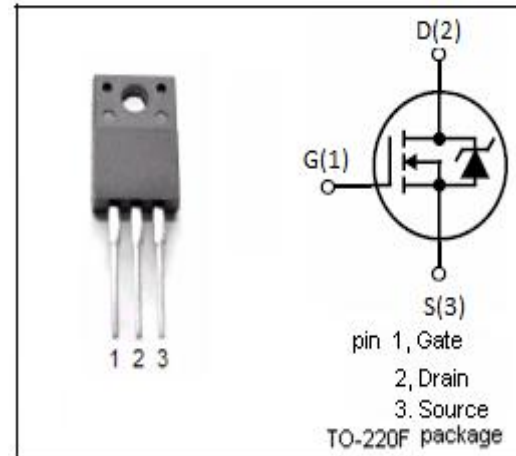
# IPA65R190C6

### • 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

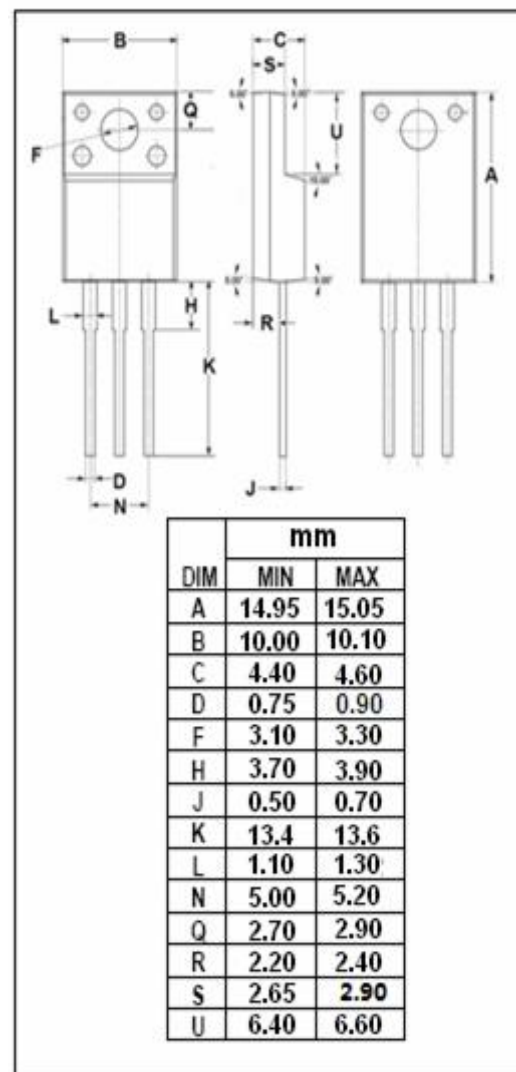
### • APPLICATIONS

- Switching applications



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

SYMBOL	PARAMETER	VALUE	UNIT
$V_{DS}$	Drain-Source Voltage	650	V
$V_{GS}$	Gate-Source Voltage	$\pm 30$	V
$I_D$	Drain Current-Continuous @ $T_c=25^{\circ}\text{C}$ ( $V_{GS}$ at 10V) $T_c=100^{\circ}\text{C}$	20.2 18.2	A
$I_{DM}$	Drain Current-Single Pulsed	66	A
$P_D$	Total Dissipation @ $T_c=25^{\circ}\text{C}$	34	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	3.7	$^{\circ}\text{C/W}$
$R_{th(ch-a)}$	Channel-to-ambient thermal resistance	80	$^{\circ}\text{C/W}$

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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> =1mA	650			V
V <sub>GS(th)</sub>	Gate Threshold Voltage	V <sub>DS</sub> = V <sub>GS</sub> ; I <sub>D</sub> =0.73mA	2.5		3.5	V
R <sub>DS(on)</sub>	Drain-Source On-Resistance	V <sub>GS</sub> = 10V; I <sub>D</sub> =7.3A		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> = 650V; V <sub>GS</sub> = 0V; T <sub>J</sub> =25°C V <sub>DS</sub> = 650V; 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> =11A, V <sub>GS</sub> = 0V		0.9		V

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