

# isc N-Channel MOSFET Transistor

# IPA65R650CE

### • FEATURES

- With TO-220F 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

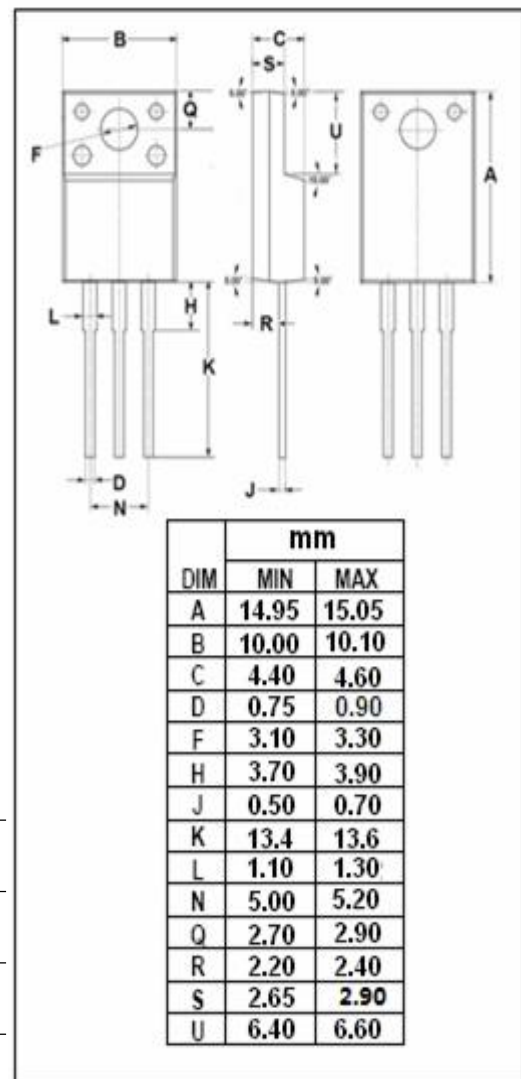
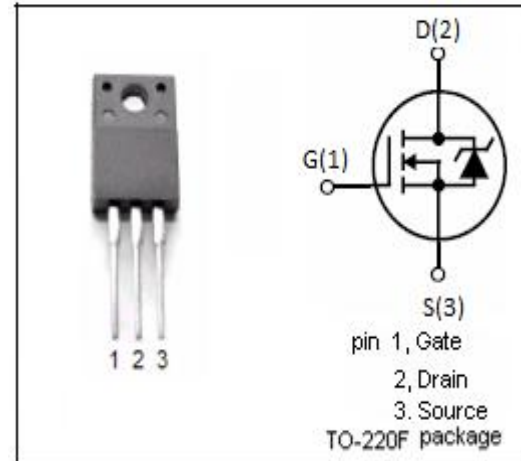
- PFC stages, hard switching PWM stages and resonant switching
- PC Silverbox, Adapter, LCD & PDP TV
- Lighting, Server, Telecom and UPS

### • 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	$\pm 20$	V
$I_D$	Drain Current-Continuous@ $T_c=25^{\circ}\text{C}$ $T_c=100^{\circ}\text{C}$	10.1 6.4	A
$I_{DM}$	Drain Current-Single Pulsed	18	A
$P_D$	Total Dissipation	28	W
$T_j$	Operating Junction Temperature	-40~150	$^{\circ}\text{C}$
$T_{stg}$	Storage Temperature	-40~150	$^{\circ}\text{C}$

### • THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	MAX	UNIT
$R_{th(ch-c)}$	Channel-to-case thermal resistance	4.5	$^{\circ}\text{C}/\text{W}$
$R_{th(ch-a)}$	Channel-to-ambient thermal resistance	80	$^{\circ}\text{C}/\text{W}$



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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> =±20V; I <sub>D</sub> =0.21mA	2.5		3.5	V
R <sub>DS(on)</sub>	Drain-Source On-Resistance	V <sub>GS</sub> = 10V; I <sub>D</sub> =2.1A		540	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> = 650V; V <sub>GS</sub> = 0V			1	μA
V <sub>SDF</sub>	Diode forward voltage	I <sub>SD</sub> =3.2A, V <sub>GS</sub> = 0 V		0.9		V

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