

Isc N-Channel MOSFET Transistor

IPA65R420CFD

• FEATURES

- With TO-220F Package
- Drain Source Voltage-
: $V_{DS}=650V(\text{Min})$
- Static Drain-Source On-Resistance
: $R_{DS(on)} = 0.42 \Omega (\text{Max})$
- 100% avalanche tested
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

• APPLICATIONS

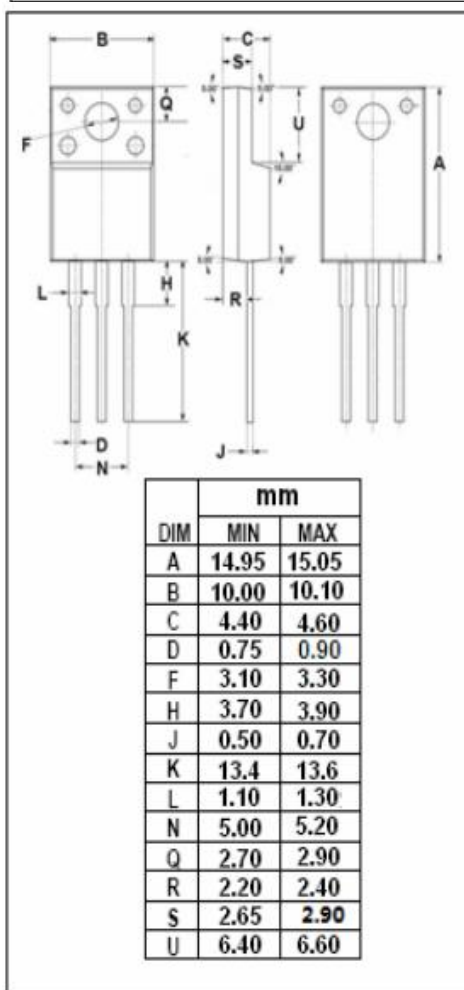
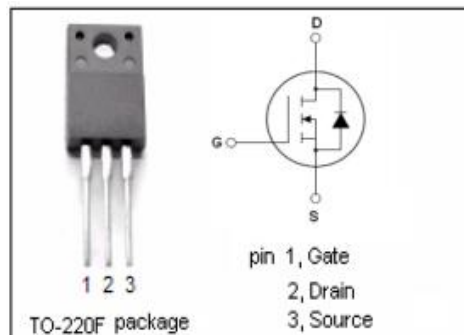
- Switching applications

• 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	± 20	V
I_D	Drain Current-Continuous @ $T_c=25^\circ\text{C}$ (V_{GS} at 10V) $T_c=100^\circ\text{C}$	8.7 5.5	A
I_{DM}	Drain Current-Single Pulsed	27	A
P_D	Total Dissipation @ $T_c=25^\circ\text{C}$	31.2	W
T_j	Max. Operating Junction Temperature	-55~150	$^\circ\text{C}$
T_{stg}	Storage Temperature	-55~150	$^\circ\text{C}$

• THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	MAX	UNIT
$R_{th(ch-c)}$	Channel-to-case thermal resistance	4	$^\circ\text{C/W}$
$R_{th(ch-a)}$	Channel-to-ambient thermal resistance	80	$^\circ\text{C/W}$



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• ELECTRICAL CHARACTERISTICS

 $T_c=25^{\circ}\text{C}$ unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN	TYPE	MAX	UNIT
BV_{DSS}	Drain-Source Breakdown Voltage	$V_{GS}=0V; I_D=1mA$	650			V
$V_{GS(th)}$	Gate Threshold Voltage	$V_{DS}=V_{GS}; I_D=0.3mA$	3.5	4	4.5	V
$R_{DS(on)}$	Drain-Source On-Resistance	$V_{GS}=10V; I_D=4.4A$		0.378	0.42	Ω
I_{GSS}	Gate-Source Leakage Current	$V_{GS}=\pm 20V; V_{DS}=0V$			± 100	nA
I_{DSS}	Drain-Source Leakage Current	$V_{DS}=650V; V_{GS}=0V; T_j=25^{\circ}\text{C}$ $V_{DS}=650V; V_{GS}=0V; T_j=150^{\circ}\text{C}$		100	1	μA
V_{SDF}	Diode forward voltage	$I_{SD}=5.2A, V_{GS}=0V$		0.9		V

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