

isc N-Channel MOSFET Transistor

SMK0870F

• FEATURES

- With TO-220F packaging
- High speed switching
- Standard level gate drive
- Easy to use
- 100% avalanche tested
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

• APPLICATIONS

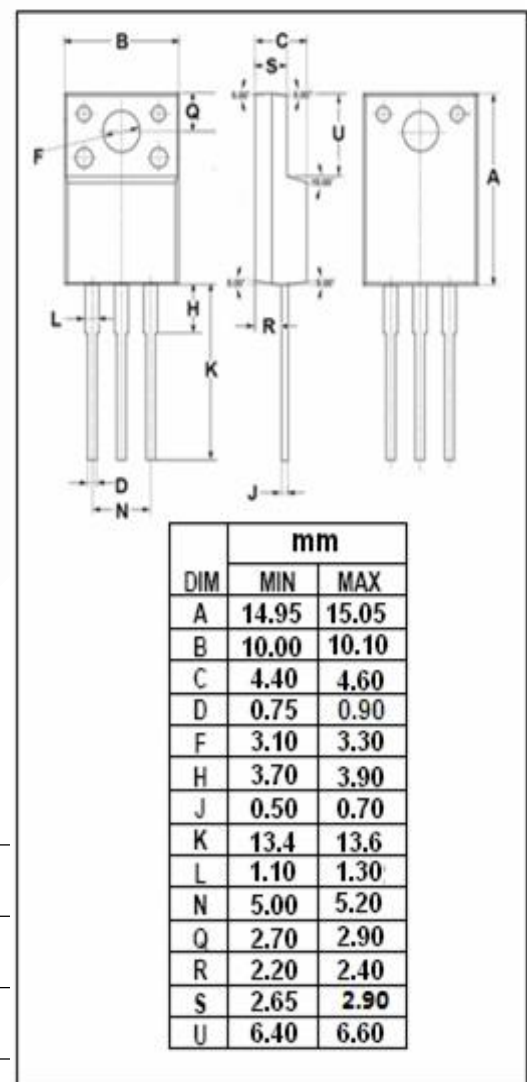
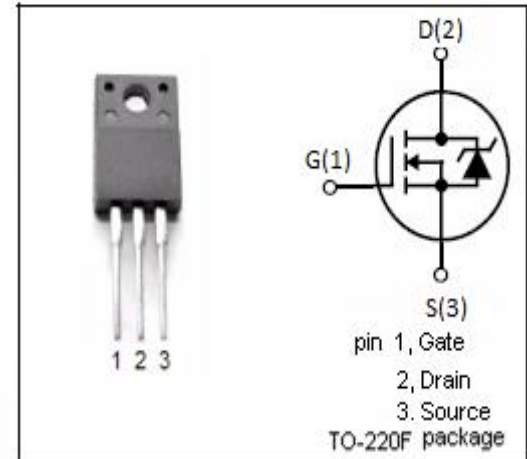
- Power supply
- Switching applications

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

SYMBOL	PARAMETER	VALUE	UNIT
V_{DSS}	Drain-Source Voltage	700	V
V_{GSS}	Gate-Source Voltage	± 30	V
I_D	Drain Current-Continuous	8	A
I_{DM}	Drain Current-Single Pulsed	32	A
P_D	Total Dissipation	40	W
T_j	Operating Junction Temperature	150	$^{\circ}\text{C}$
T_{stg}	Storage Temperature	-55~150	$^{\circ}\text{C}$

• THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	MAX	UNIT
Rth(ch-c)	Channel-to-case thermal resistance	3.13	$^{\circ}\text{C}/\text{W}$
Rth(ch-a)	Channel-to-ambient thermal resistance	62.5	$^{\circ}\text{C}/\text{W}$



isc N-Channel MOSFET Transistor**SMK0870F****ELECTRICAL CHARACTERISTICS** $T_C=25^{\circ}\text{C}$ unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP	MAX	UNIT
BV_{DSS}	Drain-Source Breakdown Voltage	$V_{GS}=0V; I_D=0.25mA$	700			V
$V_{GS(th)}$	Gate Threshold Voltage	$V_{DS}=V_{GS}; I_D=1mA$	2.0		4.0	V
$R_{DS(on)}$	Drain-Source On-Resistance	$V_{GS}=10V; I_D=4A$		770	900	$m\Omega$
I_{GSS}	Gate-Source Leakage Current	$V_{GS}=\pm 30V; V_{DS}=0V$			± 0.1	μA
I_{DSS}	Drain-Source Leakage Current	$V_{DS}=700V; V_{GS}=0V$			1	μA
V_{SDF}	Diode forward voltage	$I_{SD}=8A, V_{GS}=0V$			1.4	V

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