

isc N-Channel MOSFET Transistor

2SK870

DESCRIPTION

- Drain Current $-I_D=20A@ T_C=25^\circ C$
- Drain Source Voltage-
: $V_{DSS}=500V(\text{Min})$
- Fast Switching Speed
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

APPLICATIONS

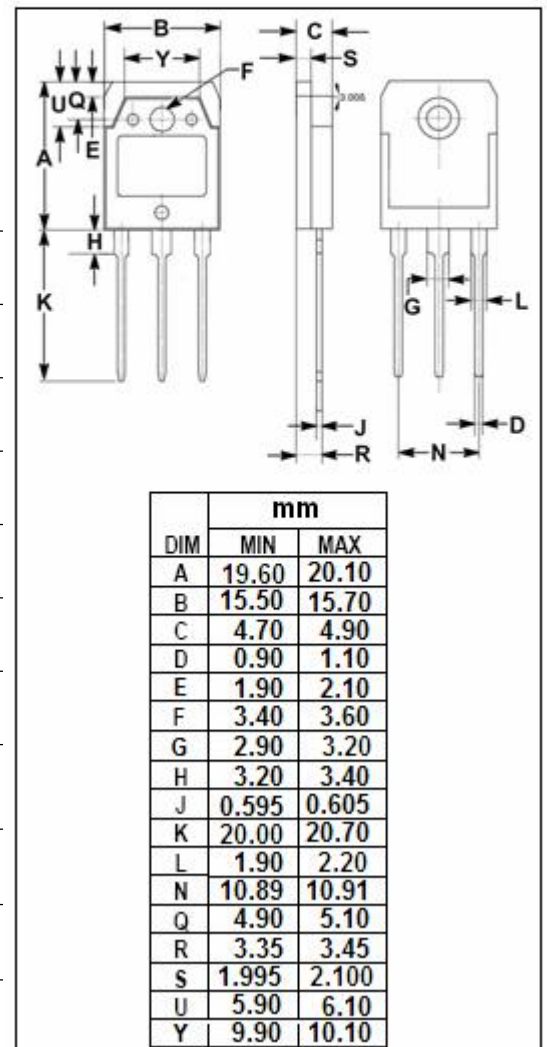
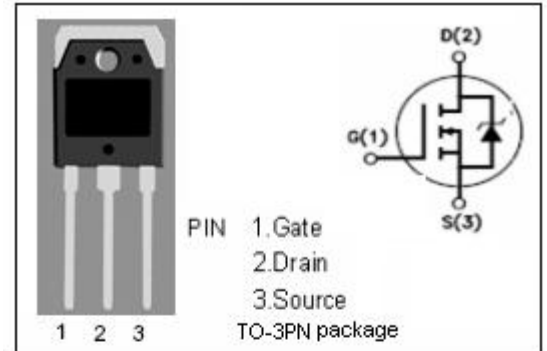
- Designed for high voltage, high speed power switching applications such as switching regulators, converters, solenoid and relay drivers.

ABSOLUTE MAXIMUM RATINGS($T_a=25^\circ C$)

SYMBOL	ARAMETER	VALUE	UNIT
V_{DSS}	Drain-Source Voltage ($V_{GS}=0$)	500	V
V_{GS}	Gate-Source Voltage	± 20	V
I_D	Drain Current-continuous@ $TC=25^\circ C$	20	A
P_{tot}	Total Dissipation@ $TC=25^\circ C$	130	W
T_j	Max. Operating Junction Temperature	150	$^\circ C$
T_{stg}	Storage Temperature Range	-55~150	$^\circ C$

THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	MAX	UNIT
$R_{th j-c}$	Thermal Resistance,Junction to Case	1.67	$^\circ C/W$
$R_{th j-a}$	Thermal Resistance,Junction to Ambient	62.5	$^\circ C/W$



isc N-Channel Mosfet Transistor**2SK870****• ELECTRICAL CHARACTERISTICS (T_c=25°C)**

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP.	MAX	UNIT
V _{(BR)DSS}	Drain-Source Breakdown Voltage	V _{GS} =0; I _D = 10mA	500			V
V _{GS(TH)}	Gate Threshold Voltage	V _{DS} =25V; I _D = 1mA	1.0		5.0	V
R _{DS(ON)}	Drain-Source On-stage Resistance	V _{GS} = 10V; I _D =10A		0.23	0.40	Ω
I _{GSS}	Gate Source Leakage Current	V _{GS} = ±20V; V _{DS} = 0			±1	uA
I _{DSS}	Zero Gate Voltage Drain Current	V _{DS} =400V; V _{GS} = 0			0.1	mA
ton	Turn-on time	V _{GS} =10V; I _D =10A; R _L =15 Ω		150		ns
toff	Turn-off time			620		ns

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