

# Isc N-Channel MOSFET Transistor

## STP10NK60ZFP

### • FEATURES

- With TO-220F package
- Low input capacitance and gate charge
- Low gate input resistance
- Reduced switching and conduction losses
- 100% avalanche tested
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

### • APPLICATIONS

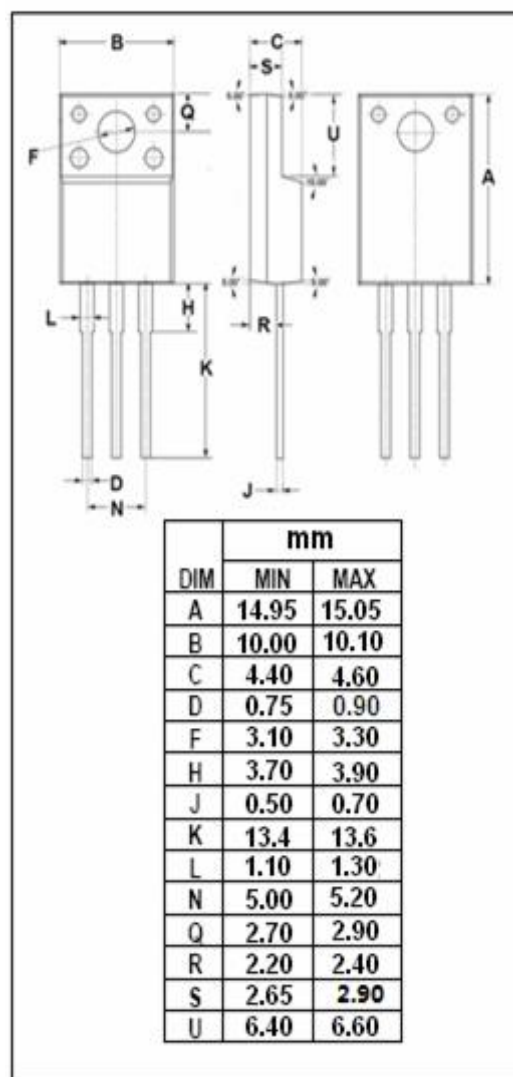
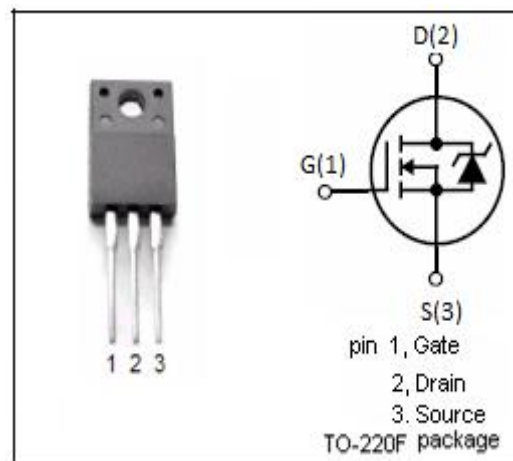
- Switching applications

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

SYMBOL	PARAMETER	VALUE	UNIT
$V_{DS}$	Drain-Source Voltage	600	V
$V_{GS}$	Gate-Source Voltage	$\pm 30$	V
$I_D$	Drain Current-Continuous @ $T_c=25^{\circ}\text{C}$ ( $V_{GS}$ at 10V) $T_c=100^{\circ}\text{C}$	10 5.7	A
$I_{DM}$	Drain Current-Single Pulsed	36	A
$P_D$	Total Dissipation @ $T_c=25^{\circ}\text{C}$	35	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	3.6	$^{\circ}\text{C/W}$
$R_{th(ch-a)}$	Channel-to-ambient thermal resistance	62.5	$^{\circ}\text{C/W}$



**Isc N-Channel MOSFET Transistor****STP10NK60ZFP****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> =0.25mA	600			V
V <sub>GS(th)</sub>	Gate Threshold Voltage	V <sub>DS</sub> = V <sub>GS</sub> ; I <sub>D</sub> =0.25mA	3.0		4.5	V
R <sub>DS(on)</sub>	Drain-Source On-Resistance	V <sub>GS</sub> = 10V; I <sub>D</sub> =20A		650	750	mΩ
I <sub>GSS</sub>	Gate-Source Leakage Current	V <sub>GS</sub> = ±15V; V <sub>DS</sub> = 0V			±10	μA
I <sub>DSS</sub>	Drain-Source Leakage Current	V <sub>DS</sub> = 600V; V <sub>GS</sub> = 0V; T <sub>j</sub> =25°C V <sub>DS</sub> = 600V; V <sub>GS</sub> = 0V; T <sub>j</sub> =125°C			1 50	μA
V <sub>SDF</sub>	Diode forward voltage	I <sub>SD</sub> =20A, V <sub>GS</sub> = 0 V			1.5	V

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