

**isc N-Channel MOSFET Transistor**
**STP170N8F7**
**FEATURES**

- Drain Current  $-I_D = 120A @ T_C = 25^\circ C$
- Drain Source Voltage-  
:  $V_{DSS} = 80V(\text{Min})$
- Static Drain-Source On-Resistance  
:  $R_{DS(on)} = 3.9m \Omega (\text{Max})$
- 100% avalanche tested
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

**DESCRIPTION**

- Low Drain-Source On-Resistance

**APPLICATIONS**

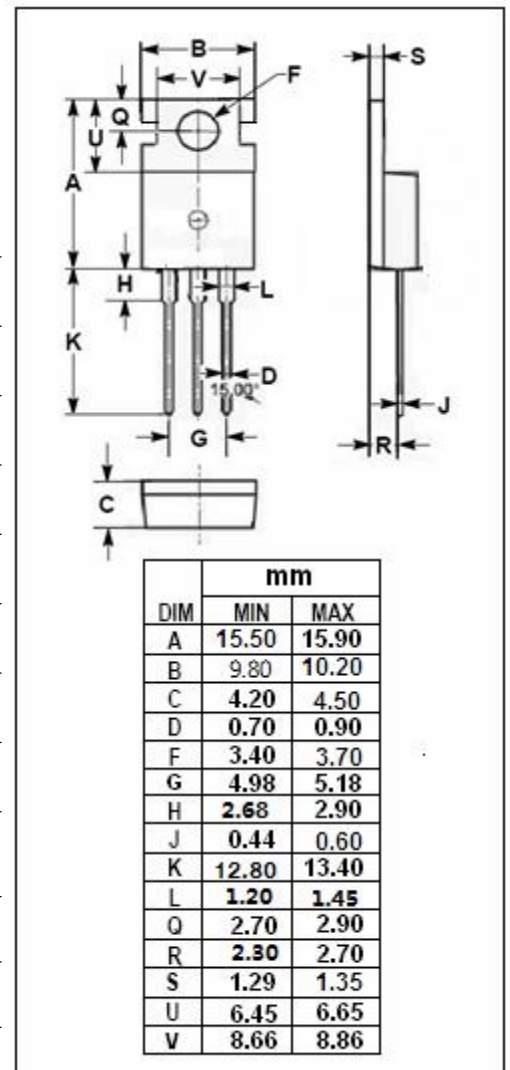
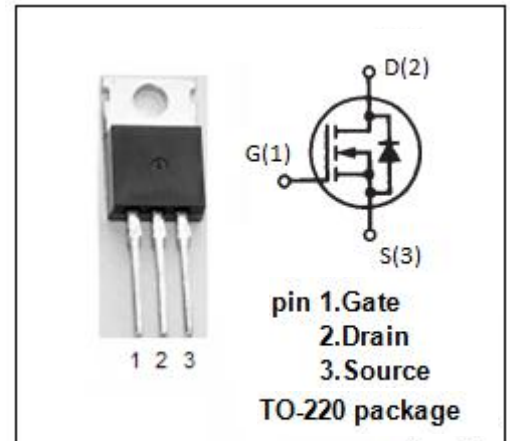
- Switching application

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

SYMBOL	PARAMETER	VALUE	UNIT
$V_{DSS}$	Drain-Source Voltage	80	V
$V_{GS}$	Gate-Source Voltage-Continuous	$\pm 20$	V
$I_D$	Drain Current-Continuous	120	A
$I_{DM}$	Drain Current-Single Pulse	480	A
$P_D$	Total Dissipation @ $T_C = 25^\circ C$	250	W
$T_J$	Max. Operating Junction Temperature	-55~175	$^\circ C$
$T_{stg}$	Storage Temperature	-55~175	$^\circ C$

**THERMAL CHARACTERISTICS**

SYMBOL	PARAMETER	MAX	UNIT
$R_{th j-c}$	Thermal Resistance, Junction to Case	0.6	$^\circ C/W$



## isc N-Channel MOSFET Transistor

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## ELECTRICAL CHARACTERISTICS

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

SYMBOL	PARAMETER	CONDITIONS	MIN	MAX	UNIT
$V_{(BR)DSS}$	Drain-Source Breakdown Voltage	$V_{GS}=0; I_D=0.25\text{mA}$	80		V
$V_{GS(th)}$	Gate Threshold Voltage	$V_{DS}=V_{GS}; I_D=0.25\text{mA}$	2.5	4.5	V
$R_{DS(on)}$	Drain-Source On-Resistance	$V_{GS}=10\text{V}; I_D=60\text{A}$		3.9	$\text{m}\Omega$
$I_{GSS}$	Gate-Body Leakage Current	$V_{GS}=\pm 20\text{V}; V_{DS}=0$		$\pm 100$	nA
$I_{DSS}$	Zero Gate Voltage Drain Current	$V_{DS}=80\text{V}; V_{GS}=0$ $V_{DS}=80\text{V}; V_{GS}=0; T_j=125^{\circ}\text{C}$		1 100	$\mu\text{A}$
$V_{SD}$	Forward On-Voltage	$I_S=120\text{A}; V_{GS}=0$		1.2	V

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