

Isc N-Channel MOSFET Transistor

STP45N10F7

• FEATURES

- Static drain-source on-resistance:
 $R_{DS(on)} \leq 18m\Omega$
- 100% avalanche tested
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

• APPLICATIONS

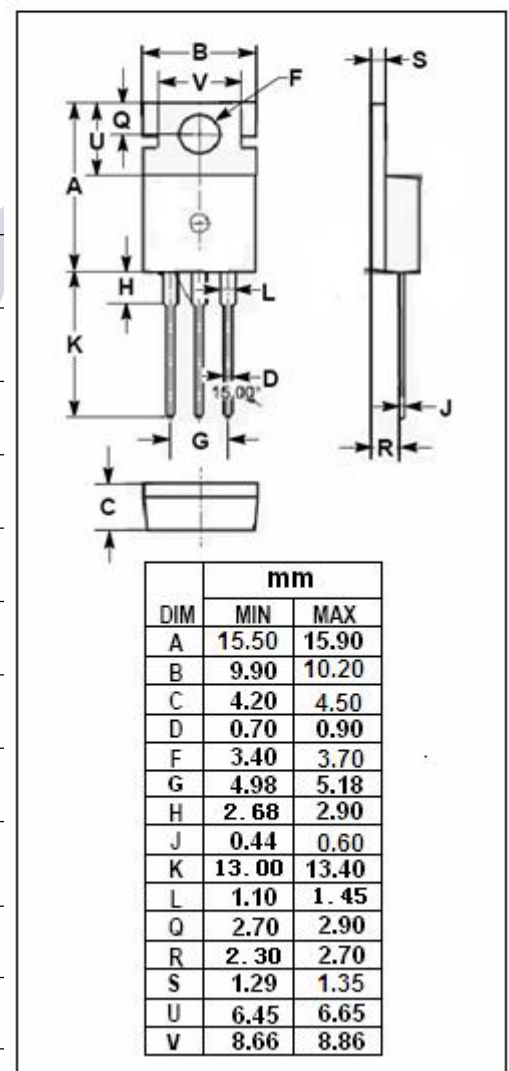
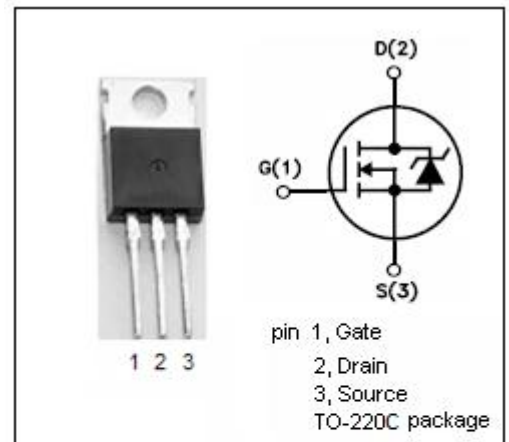
- Switching applications

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

SYMBOL	PARAMETER	VALUE	UNIT
V_{DSS}	Drain-Source Voltage	100	V
V_{GSS}	Gate-Source Voltage	± 20	V
I_D	Drain Current-Continuous@ $T_c=25^\circ C$	45	A
I_{DM}	Drain Current-Single Pulsed	180	A
P_D	Total Dissipation	60	W
T_j	Operating Junction Temperature	-55~175	$^\circ C$
T_{stg}	Storage Temperature	-55~175	$^\circ C$

• THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	MAX	UNIT
$R_{th(ch-c)}$	Channel-to-case thermal resistance	2.5	$^\circ C/W$



Isc N-Channel MOSFET Transistor**STP45N10F7****ELECTRICAL CHARACTERISTICS** $T_C=25^{\circ}\text{C}$ unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP	MAX	UNIT
BV_{DSS}	Drain-Source Breakdown Voltage	$V_{GS}=0V; I_D=1\text{mA}$	100			V
$V_{GS(th)}$	Gate Threshold Voltage	$V_{DS}=\pm 20V; I_D=250\mu\text{A}$	2.5		4.5	V
$R_{DS(on)}$	Drain-Source On-Resistance	$V_{GS}=10V; I_D=22.5\text{A}$			18	$\text{m}\Omega$
I_{GSS}	Gate-Source Leakage Current	$V_{GS}=\pm 20V; V_{DS}=0V$			100	nA
I_{DSS}	Drain-Source Leakage Current	$V_{DS}=60V; V_{GS}=0V; T_C=25^{\circ}\text{C}$ $T_C=125^{\circ}\text{C}$			10 100	μA
V_{SDF}	Diode forward voltage	$I_{SD}=45\text{A}, V_{GS}=0\text{V}$			1.1	V

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