

Isc N-Channel MOSFET Transistor

STP80N10F7

FEATURES

- Extremely low gate charge
- Ultra low on-resistance
- Low gate input resistance
- 100% avalanche tested
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

APPLICATIONS

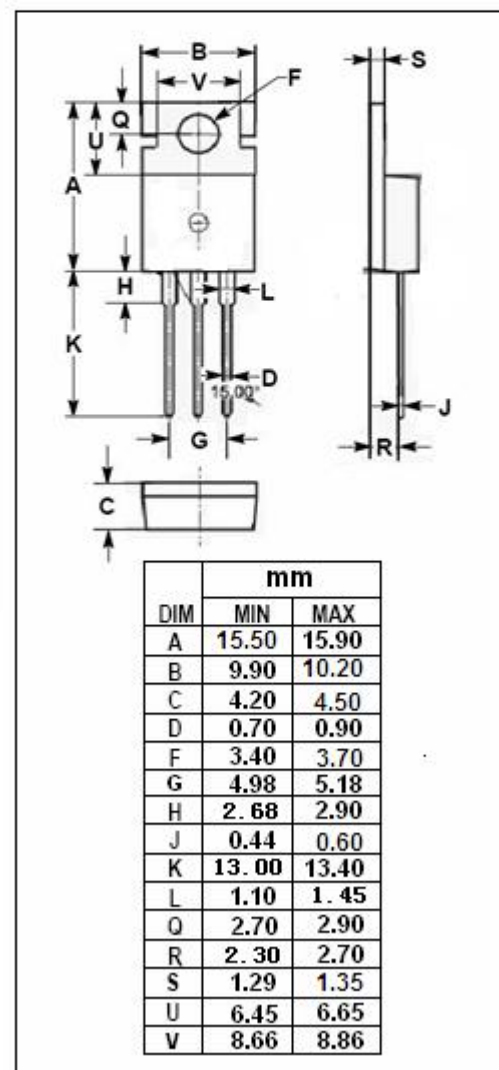
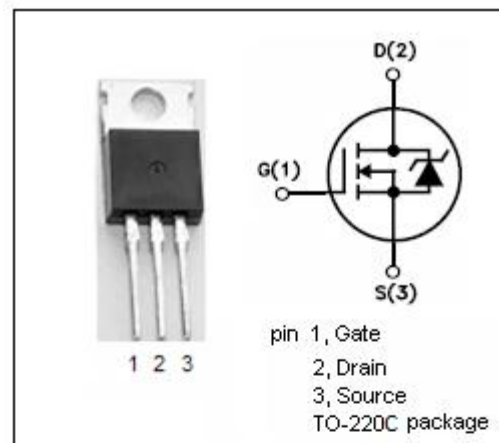
- Switching applications

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

SYMBOL	PARAMETER	VALUE	UNIT
V_{DS}	Drain-Source Voltage	100	V
V_{GS}	Gate-Source Voltage	± 20	V
I_D	Drain Current-Continuous@ $T_c=25^{\circ}\text{C}$ $T_c=100^{\circ}\text{C}$	80 54	A
I_{DM}	Drain Current-Single Pulsed	320	A
P_D	Total Dissipation	110	W
T_j	Max. Operating Junction Temperature	175	$^{\circ}\text{C}$
T_{stg}	Storage Temperature	-55~175	$^{\circ}\text{C}$

THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	MAX	UNIT
$R_{th(ch-c)}$	Channel-to-case thermal resistance	1.36	$^{\circ}\text{C/W}$
$R_{th(ch-a)}$	Channel-to-ambient thermal resistance	62.5	$^{\circ}\text{C/W}$



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ELECTRICAL CHARACTERISTICS

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

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP	MAX	UNIT
BV_{DSS}	Drain-Source Breakdown Voltage	$V_{GS}=0V; I_D=0.25mA$	100			V
$V_{GS(th)}$	Gate Threshold Voltage	$V_{DS}=\pm 20V; I_D=0.25mA$	2.5		4.5	V
$R_{DS(on)}$	Drain-Source On-Resistance	$V_{GS}=10V; I_D=40A$			10	$m\Omega$
I_{GSS}	Gate-Source Leakage Current	$V_{GS}=\pm 20V; V_{DS}=0V$			± 100	μA
I_{DSS}	Drain-Source Leakage Current	$V_{DS}=100V; V_{GS}=0V; T_J=25^{\circ}\text{C}$ $T_J=125^{\circ}\text{C}$			1 100	μA
V_{SDF}	Diode forward voltage	$I_{SD}=80A, V_{GS}=0V$			1.1	V