

Isc N-Channel MOSFET Transistor

STP16NF06

• FEATURES

- Typical $R_{DS(on)}=0.08\ \Omega$
- With low gate drive requirements
- 100% avalanche tested
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

• APPLICATIONS

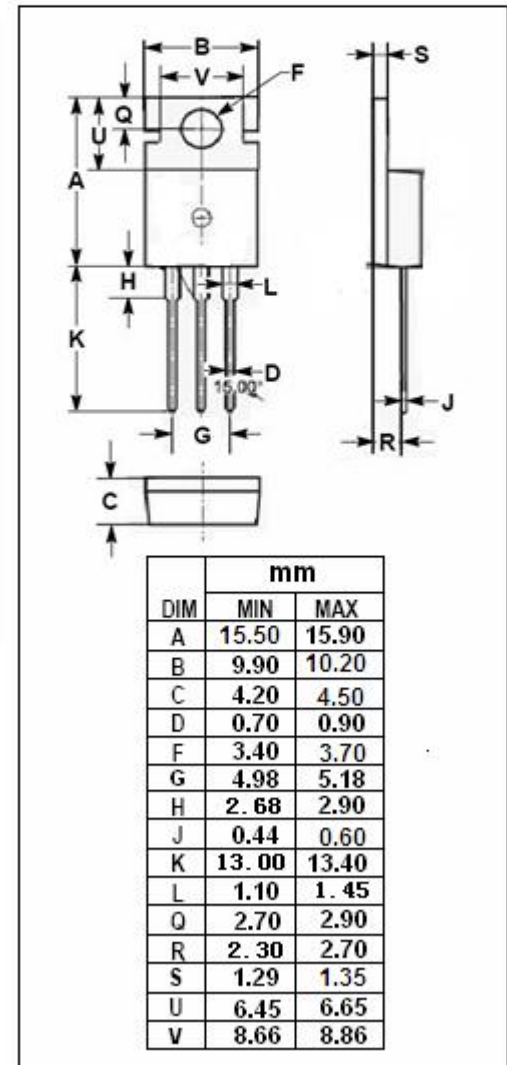
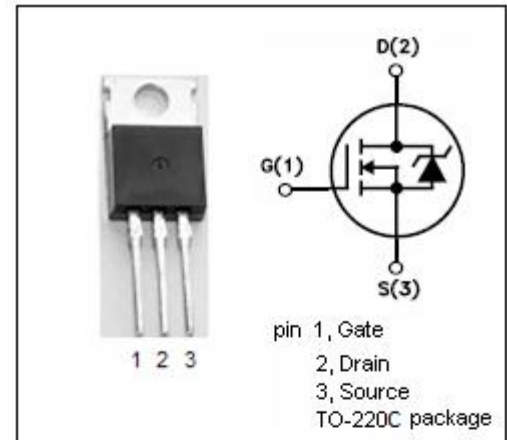
- Solenoid and relay drivers
- DC-DC & DC-CA converters
- Automotive environment

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

SYMBOL	PARAMETER	VALUE	UNIT
V_{DSS}	Drain-Source Voltage	60	V
V_{GSS}	Gate-Source Voltage	± 20	V
I_D	Drain Current-Continuous@ $T_c=25^\circ\text{C}$ $T_c=100^\circ\text{C}$	16 11	A
I_{DM}	Drain Current-Single Pulsed	64	A
P_D	Total Dissipation	45	W
T_j	Operating Junction Temperature	-55~175	$^\circ\text{C}$
T_{stg}	Storage Temperature	-55~175	$^\circ\text{C}$

• THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	MAX	UNIT
$R_{th(ch-c)}$	Channel-to-case thermal resistance	3.33	$^\circ\text{C/W}$
$R_{th(ch-a)}$	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	$V_{GS}=0V; I_D=0.25mA$	60			V
$V_{GS(th)}$	Gate Threshold Voltage	$V_{DS}=\pm 20V; I_D=0.25mA$	2		4	V
$R_{DS(on)}$	Drain-Source On-Resistance	$V_{GS}=10V; I_D=8A$		80	100	$m\Omega$
I_{GSS}	Gate-Source Leakage Current	$V_{GS}=\pm 20V; V_{DS}=0V$			± 0.1	μA
I_{DSS}	Drain-Source Leakage Current	$V_{DS}=60V; V_{GS}=0V; T_J=25^{\circ}\text{C}$ $T_J=125^{\circ}\text{C}$			1 10	μA
V_{SDF}	Diode forward voltage	$I_{SD}=16A, V_{GS}=0V$			1.3	V