

isc N-Channel MOSFET Transistor

FDP090N10

• FEATURES

- Drain Source Voltage-
: $V_{DS} = 100V(\text{Min})$
- Static Drain-Source On-Resistance
: $R_{DS(on)} = 9m\Omega (\text{Max})$
- High power and current handling capability
- 100% avalanche tested
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

• APPLICATIONS

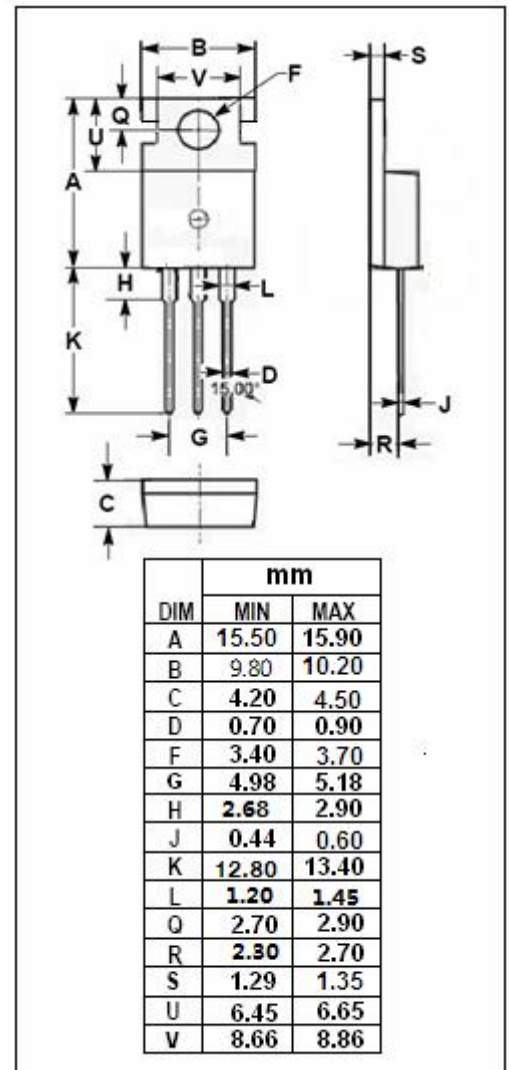
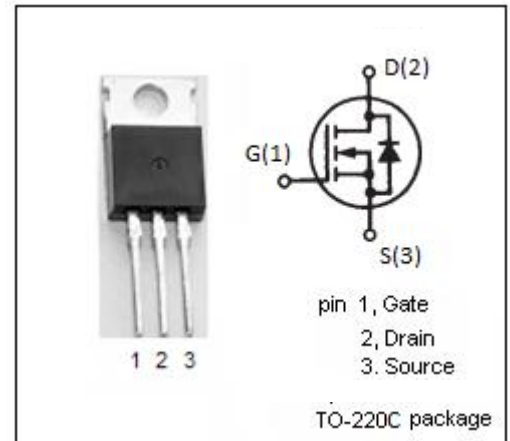
- Switch-Mode and Resonant-Mode Power Supplies
- DC-DC Converters
- AC and DC Motor Drives
- Robotics and Servo Controls

• 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-Continuous	± 20	V
I_D	Drain Current-Continuous	75	A
I_{DM}	Drain Current-Single Plused	300	A
P_D	Total Dissipation @ $T_C=25^\circ\text{C}$	208	W
T_j	Max. Operating Junction Temperature	-55~175	$^\circ\text{C}$
T_{stg}	Storage Temperature	-55~175	$^\circ\text{C}$

• THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	MAX	UNIT
$R_{th j-c}$	Thermal Resistance, Junction to Case	0.72	$^\circ\text{C/W}$



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• ELECTRICAL CHARACTERISTICS

T_c=25°C unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN	TYPE	MAX	UNIT
V _{(BR)DSS}	Drain-Source Breakdown Voltage	V _{GS} = 0; I _D = 250uA	100			V
V _{GS(th)}	Gate Threshold Voltage	V _{DS} = V _{GS} ; I _D = 250uA	2.5		4.5	V
R _{DS(on)}	Drain-Source On-Resistance	V _{GS} = 10V; I _D = 75A			9	mΩ
I _{GSS}	Gate-Body Leakage Current	V _{GS} = ±20V; V _{DS} = 0			±100	nA
I _{DSS}	Zero Gate Voltage Drain Current	V _{DS} =100V; V _{GS} = 0 V _{DS} =100V; V _{GS} = 0; T _J =150°C			1 500	μA
V _{SD}	Diode Forward On-voltage	I _F = 75A; V _{GS} = 0			1.25	V

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