

Isc N-Channel MOSFET Transistor

SUP90N10-8M8P

• FEATURES

- TrenchFET® Power MOSFET
- 175 ° C Junction Temperature
- 100 % Rg and UIS Tested
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

• DESCRIPTION

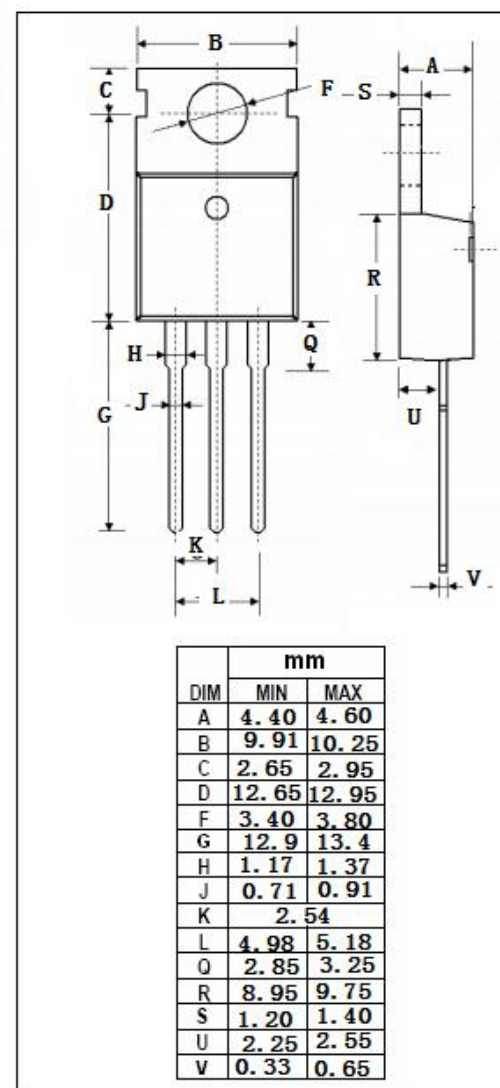
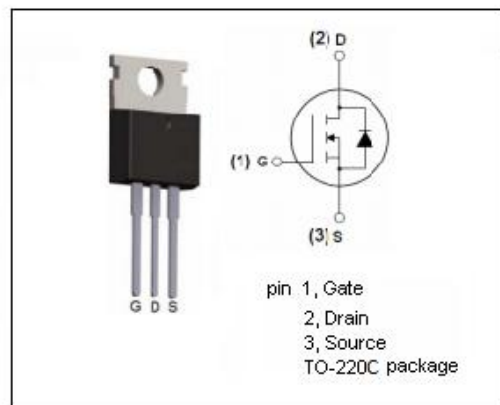
- Power Supply
 - Secondary Synchronous Rectification
- Industrial
- Primary Switch

• 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@ $T_c=25^{\circ}\text{C}$ ($T_J=175^{\circ}\text{C}$) $T_c=70^{\circ}\text{C}$	90 90	A
I_{DM}	Drain Current-Single Pulsed	240	A
P_D	Total Dissipation @ $T_c=25^{\circ}\text{C}$	300	W
T_{ch}	Max. Operating Junction Temperature	-55~175	$^{\circ}\text{C}$
T_{stg}	Storage Temperature	-55~175	$^{\circ}\text{C}$

• THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	MAX	UNIT
$R_{th(ch-c)}$	Channel-to-case thermal resistance	0.5	$^{\circ}\text{C/W}$
$R_{th(ch-a)}$	Channel-to-ambient thermal resistance	40	$^{\circ}\text{C/W}$



Isc N-Channel MOSFET Transistor**SUP90N10-8M8P****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	$V_{GS}= 10V; I_D=20A @ T_J=25^{\circ}\text{C}$ $T_J=125^{\circ}\text{C}$		7.25 13.7	8.8 18.4	$m\Omega$
I_{GSS}	Gate-Source Leakage Current	$V_{GS}= \pm 20V; V_{DS}= 0V$			± 0.25	μA
I_{DSS}	Drain-Source Leakage Current	$V_{DS}= 600V; V_{GS}= 0V; T_J=25^{\circ}\text{C}$ $T_J=125^{\circ}\text{C}$ $T_J=150^{\circ}\text{C}$			1 50 250	μA
V_{SDF}	Diode forward voltage	$I_{DR} =30A, V_{GS} = 0 V$		0.85	1.5	V

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