

Isc N-Channel MOSFET Transistor

SUP70040E

• FEATURES

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

• APPLICATION

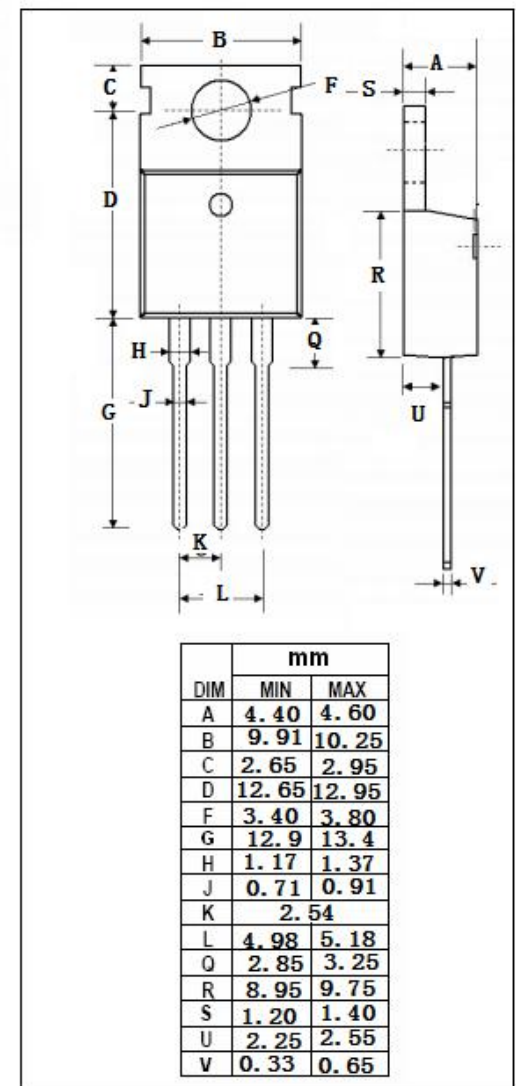
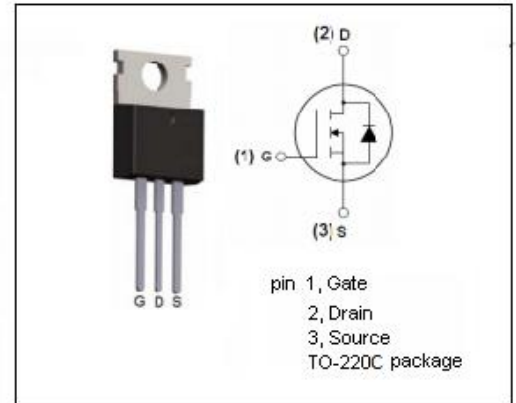
- Power Supply
 - Secondary Synchronous Rectification
- Power tools
- Motor drive switch
- Battery management

• ABSOLUTE MAXIMUM RATINGS(T_a=25°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°C (T _j =150°C) T _c =70°C	120 120	A
I _{DM}	Drain Current-Single Pulsed(t=100 μ s)	480	A
P _D	Total Dissipation @T _c =25°C T _c =125°C	375 125	W
T _{ch}	Max. Operating Junction Temperature	-55~175	°C
T _{stg}	Storage Temperature	-55~175	°C

• THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	MAX	UNIT
R _{th(ch-c)}	Channel-to-case thermal resistance	0.4	°C/W
R _{th(ch-a)}	Channel-to-ambient thermal resistance	40	°C/W



Isc N-Channel MOSFET Transistor**SUP70040E****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		4.0	V
$R_{DS(on)}$	Drain-Source On-Resistance	$V_{GS}= 10V; I_D=20A$ $V_{GS}= 7.5V; I_D=15A$			4.0 4.6	$m\Omega$
I_{GSS}	Gate-Source Leakage Current	$V_{GS}= \pm 20V; V_{DS}= 0V$			± 0.25	μA
I_{DSS}	Drain-Source Leakage Current	$V_{DS}= 100V; V_{GS}= 0V; T_J=25^{\circ}\text{C}$ $T_J=125^{\circ}\text{C}$ $T_J=150^{\circ}\text{C}$			1 150 5000	μA
V_{SDF}	Diode forward voltage	$I_F=10A, V_{GS}= 0 V$			1.5	V

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