

isc N-Channel MOSFET Transistor

SUD70090E

• FEATURES

- Static drain-source on-resistance:
 $R_{DS(on)} \leq 8.9m\Omega$
- Enhancement mode
- 100% avalanche tested
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

• APPLICATIONS

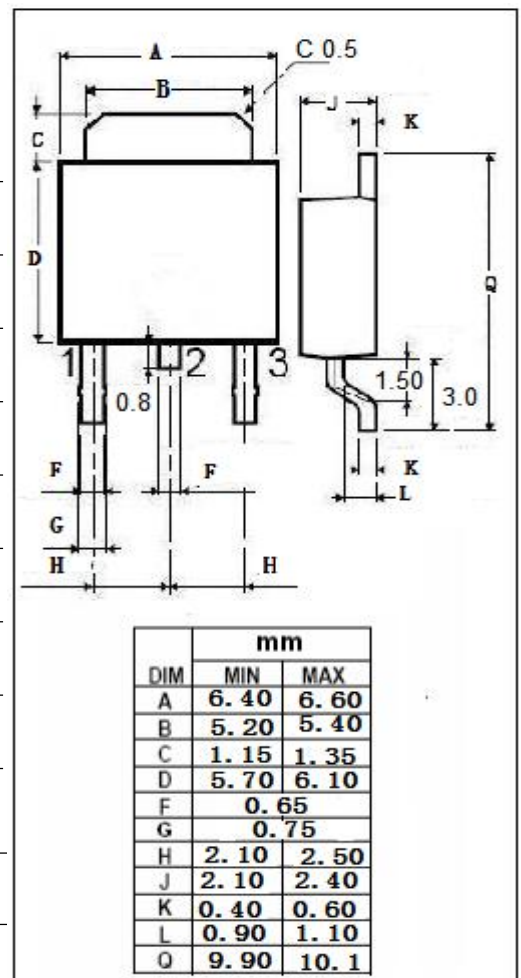
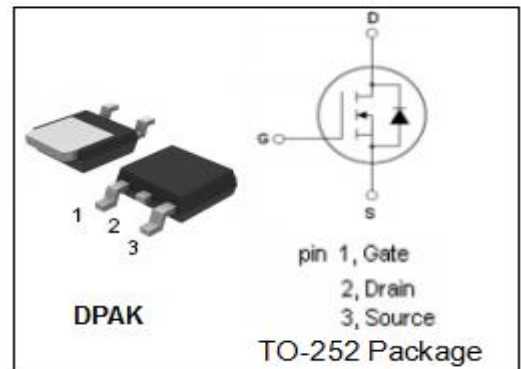
- DC/DC converter
- Power tools
- Motor drive switch

• 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	50	A
I_{DM}	Drain Current-Single Pulsed	120	A
P_D	Total Dissipation @ $T_c=25^\circ\text{C}$	125	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
$R_{th(j-c)}$	Channel-to-case thermal resistance	1.2	$^\circ\text{C/W}$
$R_{th(j-a)}$	Channel-to-ambient thermal resistance	40	$^\circ\text{C/W}$



isc N-Channel MOSFET Transistor**SUD70090E****ELECTRICAL CHARACTERISTICS****T_C=25°C unless otherwise specified**

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP	MAX	UNIT
BV _{DSS}	Drain-Source Breakdown Voltage	V _{GS} =0V; I _D =250 μA	100			V
V _{GS(th)}	Gate Threshold Voltage	V _{DS} =V _{GS} ; I _D =250 μA	2		4	V
R _{DS(on)}	Drain-Source On-Resistance	V _{GS} =10V; I _D =20A			8.9	mΩ
I _{GSS}	Gate-Source Leakage Current	V _{GS} = ±20V; V _{DS} = 0V			±250	nA
I _{DSS}	Drain-Source Leakage Current	V _{DS} =100V; V _{GS} = 0V			1	μA
		V _{DS} =100V; V _{GS} = 0V; T _J =125°C			150	
V _{SD}	Diode forward voltage	I _F =10A, V _{GS} = 0V			1.5	V

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