

isc N-Channel MOSFET Transistor

FQL40N50

• FEATURES

- High breakdown voltage
- Fast Switching Speed
- 100% avalanche tested
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

• APPLICATIONS

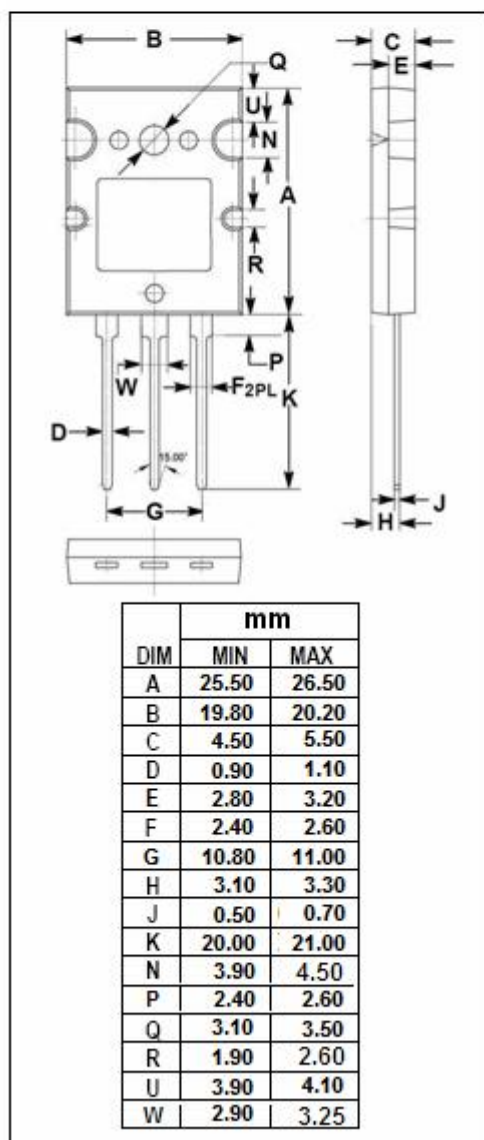
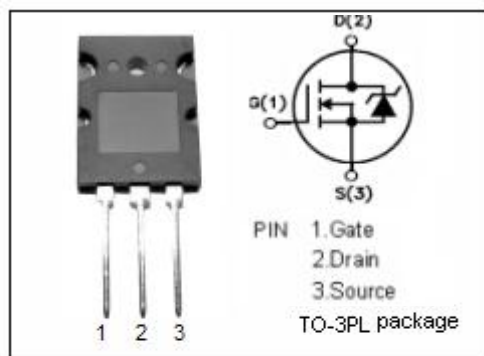
- High speed power switching
- Power factor correction, motor drive and welding machine

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

SYMBOL	PARAMETER	VALUE	UNIT
V_{DS}	Drain-Source Voltage	500	V
V_{GS}	Gate-Source Voltage	± 30	V
I_D	Drain Current-Continuous	40	A
I_{DM}	Drain Current-Single Pulsed	160	A
P_D	Total Dissipation @ $T_c=25^\circ\text{C}$	460	W
T_j	Max. Operating Junction Temperature	150	$^\circ\text{C}$
T_{stg}	Storage Temperature	-55~150	$^\circ\text{C}$

• THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	MAX	UNIT
$R_{th(ch-c)}$	Channel-to-case thermal resistance	0.27	$^\circ\text{C/W}$



isc N-Channel MOSFET Transistor**FQL40N50****ELECTRICAL CHARACTERISTICS** $T_C=25^{\circ}\text{C}$ unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP	MAX	UNIT
BV_{DSS}	Drain-Source Breakdown Voltage	$V_{GS}=0V$; $I_D=250\mu A$	500			V
$V_{GS(th)}$	Gate Threshold Voltage	$V_{DS}=V_{GS}$; $I_D=250\mu A$	3		5	V
$R_{DS(on)}$	Drain-Source On-Resistance	$V_{GS}=10V$; $I_D=20A$			0.11	Ω
I_{GSS}	Gate-Source Leakage Current	$V_{GS}=\pm 30V$; $V_{DS}=0V$			± 100	nA
I_{DSS}	Drain-Source Leakage Current	$V_{DS}=500V$; $V_{GS}=0V$			1	μA
		$V_{DS}=400V$; $V_{GS}=0V$; $T_C=125^{\circ}\text{C}$			10	
V_{SD}	Diode forward voltage	$I_F=40A$; $V_{GS}=0V$			1.4	V

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