

isc N-Channel MOSFET Transistor

AOI4184

• FEATURES

- Drain Current $-I_D = 50A @ T_C = 25^\circ C$
- Drain Source Voltage-
: $V_{DS} = 40V(\text{Min})$
- Static Drain-Source On-Resistance
: $R_{DS(on)} = 8m\Omega (\text{Max})$
- 100% avalanche tested
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

• DESCRIPTION

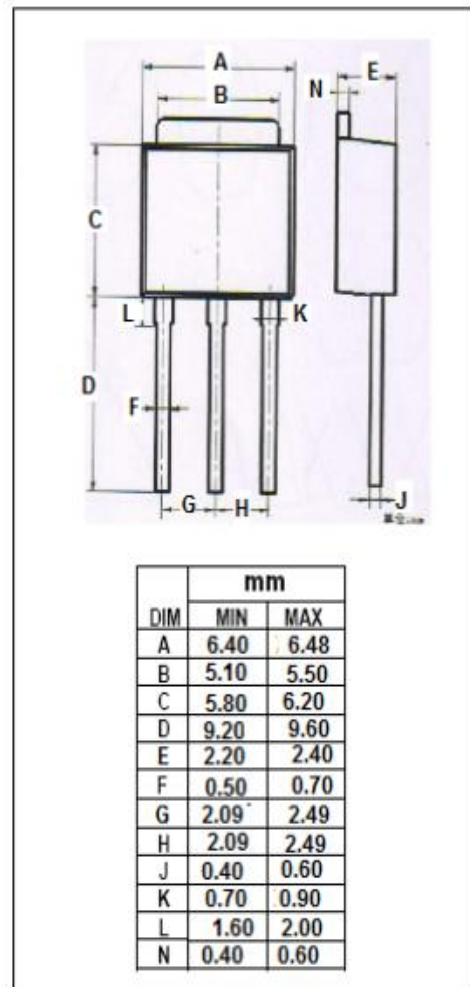
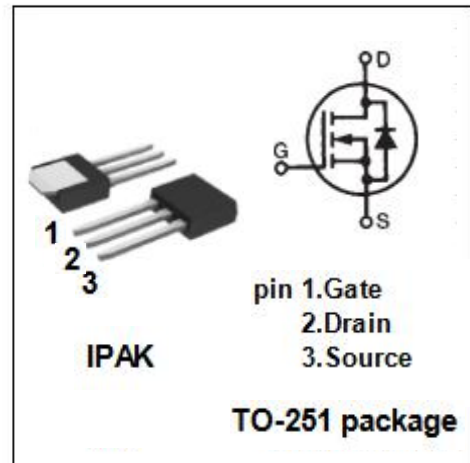
- Be suitable for synchronous rectification for server and general purpose applications

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

SYMBOL	PARAMETER	VALUE	UNIT
V_{DS}	Drain-Source Voltage	40	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 @ $T_C = 25^\circ C$	50	W
T_j	Max. Operating Junction Temperature	-55~175	$^\circ C$
T_{stg}	Storage Temperature	-55~175	$^\circ C$

• THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	MAX	UNIT
$R_{th(ch-c)}$	Channel-to-case thermal resistance	3	$^\circ C/W$



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ELECTRICAL CHARACTERISTICS

 $T_c=25^{\circ}\text{C}$ unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN	MAX	UNIT
BV_{DSS}	Drain-Source Breakdown Voltage	$V_{GS}=0V$; $I_D = 250\ \mu A$	40		V
$V_{GS(th)}$	Gate Threshold Voltage	$V_{DS} = V_{GS}$; $I_D = 250\ \mu A$	1.7	2.6	V
$R_{DS(on)}$	Drain-Source On-Resistance	$V_{GS} = 10V$; $I_D = 20A$ $V_{GS} = 10V$; $I_D = 20A$; $T_J = 125^{\circ}\text{C}$		8 13	$m\Omega$
I_{GSS}	Gate-Source Leakage Current	$V_{GS} = \pm 25V$; $V_{DS} = 0V$		± 100	nA
I_{DSS}	Drain-Source Leakage Current	$V_{DS} = 40V$; $V_{GS} = 0V$ $V_{DS} = 40V$; $V_{GS} = 0V$; $T_J = 55^{\circ}\text{C}$		1 5	μA
V_{SD}	Diode forward voltage	$I_S = 1A$; $V_{GS} = 0V$		1	V

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