

**isc N-Channel MOSFET Transistor**
**AOY514**
**FEATURES**

- Drain Current  $-I_D = 46A @ T_C = 25^\circ C$
- Drain Source Voltage-  
:  $V_{DSS} = 30V(\text{Min})$
- Static Drain-Source On-Resistance  
:  $R_{DS(on)} = 5.9m\Omega (\text{Max})$
- 100% avalanche tested
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

**DESCRIPTION**

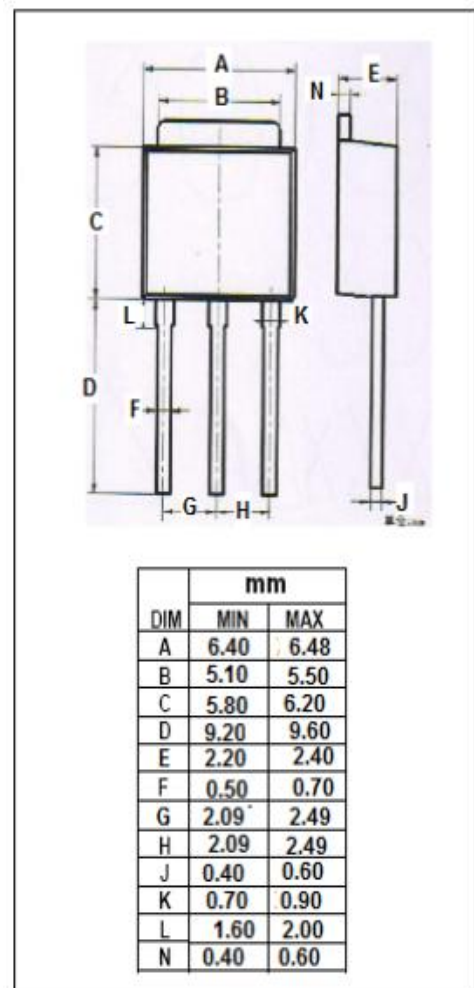
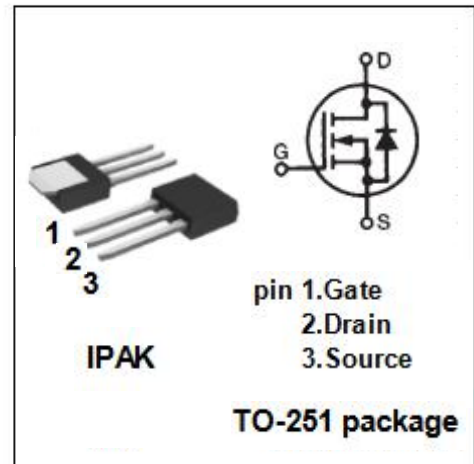
- Designed for use in switch mode power supplies and general purpose applications.

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

SYMBOL	PARAMETER	VALUE	UNIT
$V_{DSS}$	Drain-Source Voltage	30	V
$V_{GS}$	Gate-Source Voltage-Continuous	$\pm 20$	V
$I_D$	Drain Current-Continuous	46	A
$I_{DM}$	Drain Current-Single Pluse	163	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
$R_{th\ j-c}$	Thermal Resistance, Junction to Case	3.0	$^\circ C/W$



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## ELECTRICAL CHARACTERISTICS

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

SYMBOL	PARAMETER	CONDITIONS	MIN	MAX	UNIT
$V_{(BR)DSS}$	Drain-Source Breakdown Voltage	$V_{GS}=0$ ; $I_D=0.25\text{mA}$	30		V
$V_{GS(th)}$	Gate Threshold Voltage	$V_{DS}=V_{GS}$ ; $I_D=0.25\text{mA}$	1.6	2.4	V
$R_{DS(on)}$	Drain-Source On-Resistance	$V_{GS}=10\text{V}$ ; $I_D=20\text{A}$ $V_{GS}=10\text{V}$ ; $I_D=20\text{A}@T_J=125^\circ\text{C}$		5.9 7.5	$\text{m}\Omega$
$I_{GSS}$	Gate-Body Leakage Current	$V_{GS}=\pm 20\text{V}$ ; $V_{DS}=0$		$\pm 100$	nA
$I_{DSS}$	Zero Gate Voltage Drain Current	$V_{DS}=30\text{V}$ ; $V_{GS}=0$ $V_{DS}=30\text{V}$ ; $V_{GS}=0@T_J=55^\circ\text{C}$		1 5	$\mu\text{A}$
$V_{SD}$	Forward On-Voltage	$I_S=1\text{A}$ ; $V_{GS}=0$		1	V

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