

**isc N-Channel MOSFET Transistor**
**STW9NK90Z**
**FEATURES**

- Drain Current :  $I_D = 8A @ T_C = 25^\circ C$
- Drain Source Voltage :  $V_{DSS} = 900V(\text{Min})$
- Static Drain-Source On-Resistance :  $R_{DS(on)} = 1.3 \Omega (\text{Max}) @ V_{GS} = 10V$
- 100% avalanche tested
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

**DESCRIPTION**

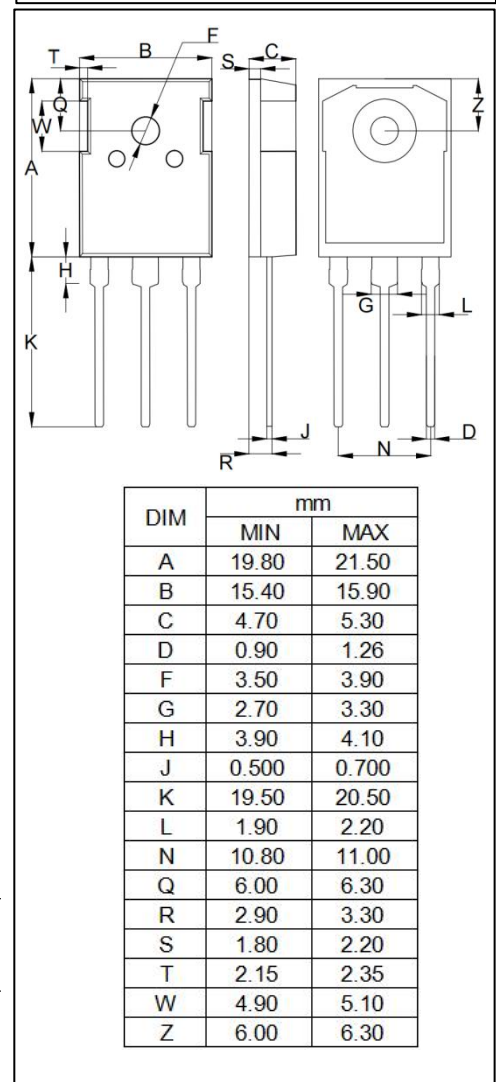
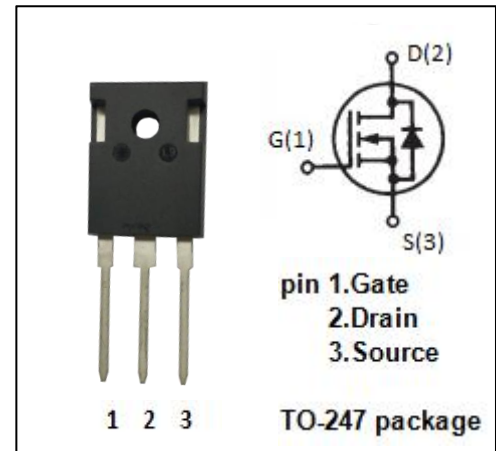
- motor drive, DC-DC converter, power switch and solenoid drive.

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

SYMBOL	PARAMETER	VALUE	UNIT
$V_{DSS}$	Drain-Source Voltage	900	V
$V_{GSS}$	Gate-Source Voltage	$\pm 30$	V
$I_D$	Drain Current-Continuous; @ $T_C = 25^\circ C$	8	A
$I_{DM}$	Drain Current-Single Pulsed	32	A
$P_D$	Total Dissipation	160	W
$T_j$	Operating Junction Temperature	-55~150	$^\circ C$
$T_{stg}$	Storage Temperature	-55~150	$^\circ C$

**• THERMAL CHARACTERISTICS**

SYMBOL	PARAMETER	MAX	UNIT
$R_{th(ch-c)}$	Channel-to-case thermal resistance	0.78	$^\circ C/W$



## isc N-Channel MOSFET Transistor

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## ELECTRICAL CHARACTERISTICS

T<sub>c</sub>=25°C unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP	MAX	UNIT
BV <sub>DSS</sub>	Drain-Source Breakdown Voltage	V <sub>GS</sub> =0V; I <sub>D</sub> = 1mA	900	-	-	V
V <sub>GS(th)</sub>	Gate Threshold Voltage	V <sub>DS</sub> =V <sub>GS</sub> ; I <sub>D</sub> = 0.1mA	3	-	4.5	V
R <sub>DS(on)</sub>	Drain-Source On-Resistance	V <sub>GS</sub> =10V; I <sub>D</sub> =3.6A	-	-	1.3	Ω
I <sub>GSS</sub>	Gate-Source Leakage Current	V <sub>GS</sub> =±20V; V <sub>DS</sub> = 0V	-	-	±10	uA
I <sub>DSS</sub>	Drain-Source Leakage Current	V <sub>DS</sub> = 900V; V <sub>GS</sub> = 0V	-	-	1	uA
V <sub>SD</sub>	Diode forward voltage	I <sub>SD</sub> = 8A, V <sub>GS</sub> = 0 V	-	-	1.6	V

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