

**isc N-Channel MOSFET Transistor**
**STB12NK80Z**
**DESCRIPTION**

- Drain Current :  $I_D = 10.5A @ T_C = 25^\circ C$
- Drain Source Voltage  
:  $V_{DSS} = 800V(\text{Min})$
- Static Drain-Source On-Resistance  
:  $R_{DS(on)} = 0.75 \Omega (\text{Max}) @ V_{GS} = 10V$
- 100% avalanche tested
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

**APPLICATIONS**

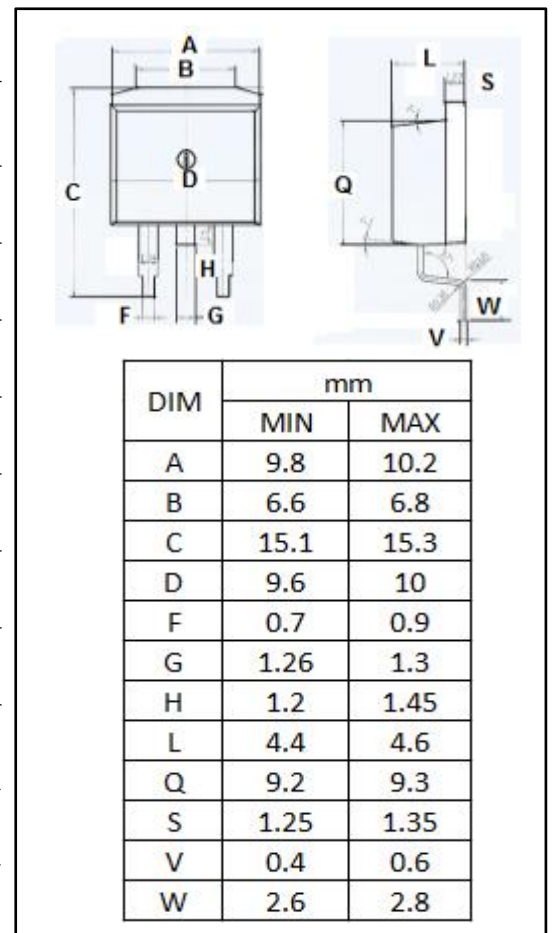
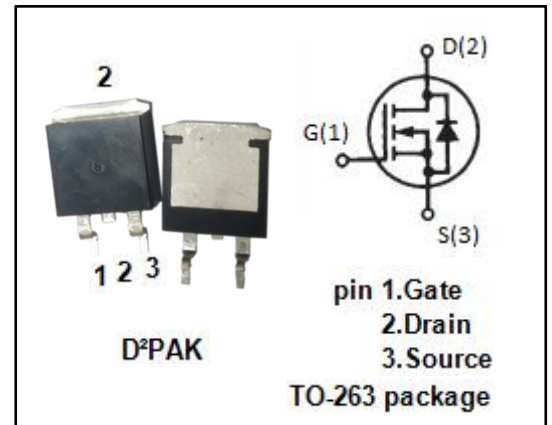
- motor drive, DC-DC converter, power switch and solenoid drive.

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

SYMBOL	PARAMETER	VALUE	UNIT
$V_{DSS}$	Drain-Source Voltage ( $V_{GS}=0$ )	800	V
$V_{GS}$	Gate-Source Voltage	$\pm 30$	V
$I_D$	Drain Current-continuous@ $T_C = 25^\circ C$	10.5	A
$I_{DM}$	Drain Current-Single Pulsed	42	A
$P_{tot}$	Total Dissipation@ $T_C = 25^\circ C$	190	W
$T_j$	Max. Operating Junction Temperature	-55~150	$^\circ C$
$T_{stg}$	Storage Temperature Range	-55~150	$^\circ C$

**THERMAL CHARACTERISTICS**

SYMBOL	PARAMETER	MAX	UNIT
$R_{th j-c}$	Thermal Resistance, Junction to Case	0.66	$^\circ C/W$



## isc N-Channel Mosfet Transistor

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ELECTRICAL CHARACTERISTICS (T<sub>c</sub>=25°C)

SYMBOL	PARAMETER	CONDITIONS	MIN	MAX	UNIT
V <sub>(BR)DSS</sub>	Drain-Source Breakdown Voltage	V <sub>GS</sub> = 0; I <sub>D</sub> = 1mA	800	--	V
V <sub>GS(th)</sub>	Gate Threshold Voltage	V <sub>DS</sub> = V <sub>GS</sub> ; I <sub>D</sub> = 0.1mA	3.0	4.5	V
R <sub>DS(on)</sub>	Drain-Source On-stage Resistance	V <sub>GS</sub> = 10V; I <sub>D</sub> = 5.25A	--	0.75	Ω
I <sub>GSS</sub>	Gate Source Leakage Current	V <sub>GS</sub> = ±30V; V <sub>DS</sub> = 0	--	±10	μA
I <sub>DSS</sub>	Zero Gate Voltage Drain Current	V <sub>DS</sub> = 800V; V <sub>GS</sub> = 0	--	1.0	μA
V <sub>SD</sub>	Forward On-Voltage	I <sub>S</sub> = 10.5A; V <sub>GS</sub> = 0	--	1.6	V

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