

isc N-Channel MOSFET Transistor

STP9NK90Z

FEATURES

- Drain Current : $I_D = 8A @ T_C = 25^\circ C$
- Drain Source Voltage
: $V_{DS} = 900V(\text{Min})$
- 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

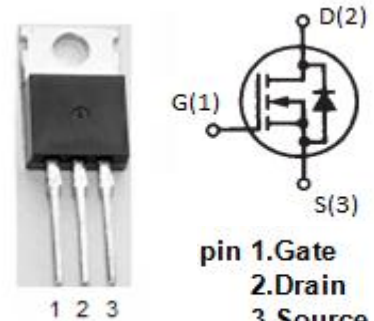
- motor drive, DC-DC converter, power switch and solenoid drive.

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

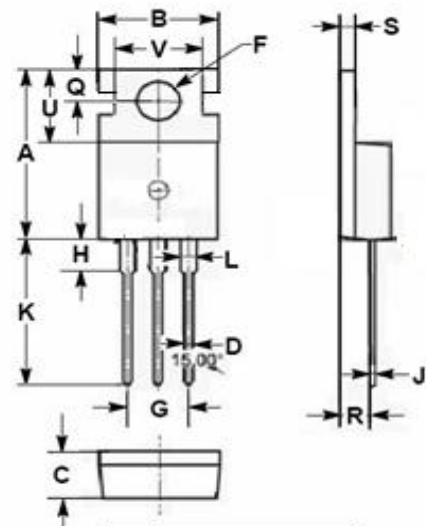
SYMBOL	PARAMETER	VALUE	UNIT
V_{DS}	Drain-Source Voltage	900	V
V_{GS}	Gate-Source Voltage	± 30	V
I_D	Drain Current-Continuous; @ $T_C = 25^\circ C$	8	A
I_{DM}	Drain Current-Single Pulsed	32	A
P_D	Total Dissipation	160	W
T_j	Operating Junction Temperature	-55~150	$^\circ C$
T_{stg}	Storage Temperature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

• THERMAL CHARACTERISTICS

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



pin 1.Gate
2.Drain
3.Source
TO-220 package



DIM	mm	
	MIN	MAX
A	15.50	15.90
B	9.80	10.20
C	4.20	4.50
D	0.70	0.90
F	3.40	3.70
G	4.98	5.18
H	2.68	2.90
J	0.44	0.60
K	12.80	13.40
L	1.20	1.45
Q	2.70	2.90
R	2.30	2.70
S	1.29	1.35
U	6.45	6.65
V	8.66	8.86

isc N-Channel MOSFET Transistor**STP9NK90Z****ELECTRICAL CHARACTERISTICS****T_c=25°C unless otherwise specified**

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

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