

isc N-Channel MOSFET Transistor
2SK3431-S
FEATURES

- Drain Current : $I_D = 83A @ T_C = 25^\circ C$
- Drain Source Voltage
: $V_{DSS} = 40V(\text{Min})$
- Static Drain-Source On-Resistance
: $R_{DS(on)} = 5.6m\Omega (\text{Max}) @ V_{GS} = 10V$
- 100% avalanche tested
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

DESCRIPTION

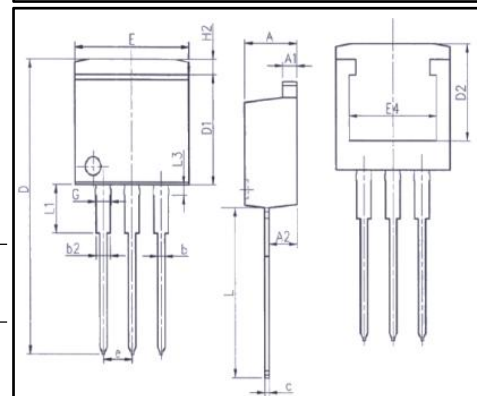
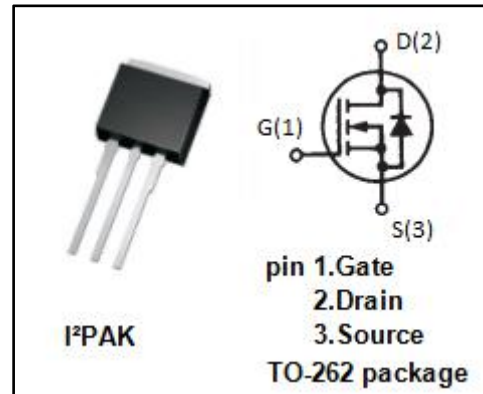
- motor drive, DC-DC converter, power switch and solenoid drive.

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

SYMBOL	PARAMETER	VALUE	UNIT
V_{DSS}	Drain-Source Voltage	40	V
V_{GS}	Gate-Source Voltage-Continuous	± 20	V
I_D	Drain Current-Continuous	83	A
I_{DM}	Drain Current-Single Pluse	332	A
P_D	Total Dissipation @ $T_C = 25^\circ C$	100	W
T_J	Max. Operating Junction Temperature	-55~150	$^\circ C$
T_{stg}	Storage Temperature	-55~150	$^\circ C$

THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	MAX	UNIT
$R_{th\ j-c}$	Thermal Resistance, Junction to Case	1.25	$^\circ C/W$



DIM	MM	
	MIN	MAX
A	4.37	4.77
A1	1.22	1.42
A2	2.47	2.87
b	0.7	0.97
b2	1.17	1.42
c	0.28	0.53
D	23.2	24.02
D1	8.38	8.9
D2	6	/
E	9.9	10.39
E4	7.3	/
E	2.54BSC	
G	1.25	1.5
H2	/	1.31
L	13.34	14.1
L1	3.3	4.06
L3	0.95	1.15

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ELECTRICAL CHARACTERISTICS

T_C=25°C unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN	MAX	UNIT
V _{(BR)DSS}	Drain-Source Breakdown Voltage	V _{GS} = 0; I _D = 1.0mA	40	--	V
V _{GS(th)}	Gate Threshold Voltage	V _{DS} = 10V; I _D = 1.0mA	1.5	2.5	V
R _{DS(on)1}	Drain-Source On-Resistance	V _{GS} = 10V; I _D = 42A V _{GS} = 4V; I _D = 42A	--	5.6 8.9	mΩ
I _{GSS}	Gate-Body Leakage Current	V _{GS} = ±20V; V _{DS} = 0	--	±10	uA
I _{DSS}	Zero Gate Voltage Drain Current	V _{DS} =40V; V _{GS} = 0	--	10	uA
V _{SD}	Forward On-Voltage	I _S = 83A; V _{GS} = 0	--	1.5	V

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