

isc N-Channel MOSFET Transistor

2SK4178-ZK

FEATURES

- Drain Current : $I_D = 48A @ T_C = 25^\circ C$
- Drain Source Voltage
: $V_{DSS} = 30V(\text{Min})$
- Static Drain-Source On-Resistance
: $R_{DS(on)} = 9.0m\Omega (\text{Max}) @ V_{GS} = 10V$
- 100% avalanche tested
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

DESCRIPTION

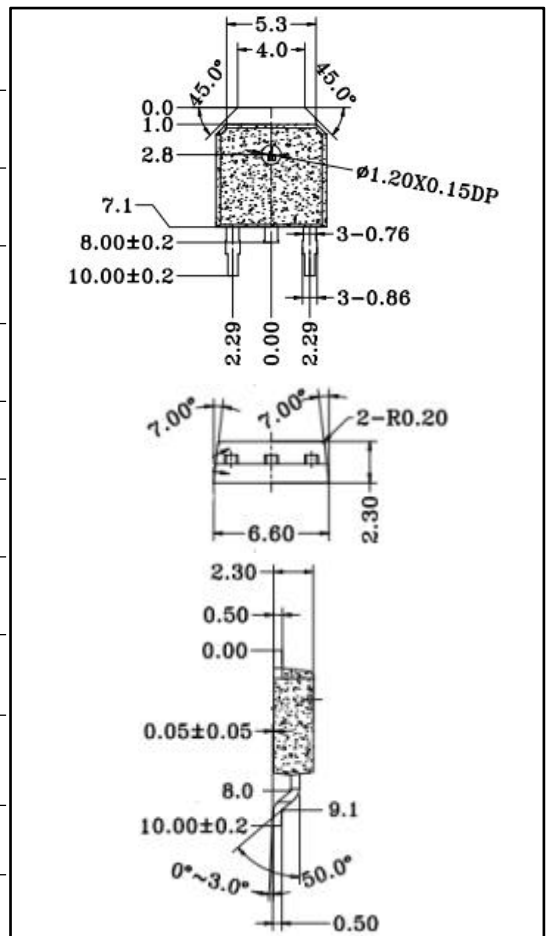
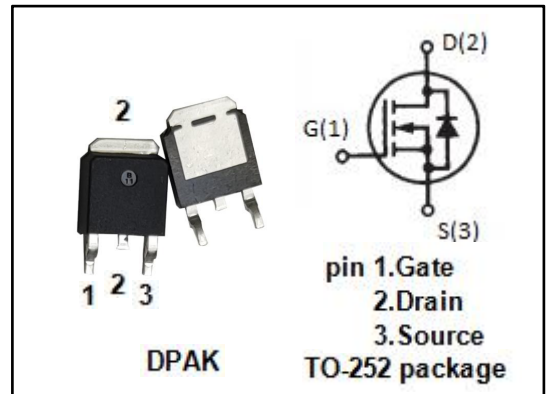
- motor drive, DC-DC converter, power switch and solenoid drive.

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

SYMBOL	PARAMETER	VALUE	UNIT
V_{DSS}	Drain-Source Voltage	30	V
V_{GS}	Gate-Source Voltage-Continuous	± 20	V
I_D	Drain Current-Continuous	48	A
I_{DM}	Drain Current-Single Pulse	144	A
P_D	Total Dissipation @ $T_C = 25^\circ C$	33	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	3.79	$^\circ C/W$



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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 = 0.25mA	30	--	V
V _{GS(th)}	Gate Threshold Voltage	V _{DS} = 10V; I _D = 0.25mA	1.5	2.5	V
R _{DS(on)}	Drain-Source On-Resistance	V _{GS} = 10V; I _D = 30A V _{GS} = 4.5V; I _D = 12A	--	9.0 15	m Ω
I _{GSS}	Gate-Body Leakage Current	V _{GS} = ±20V; V _{DS} = 0	--	±0.1	uA
I _{DSS}	Zero Gate Voltage Drain Current	V _{DS} = 30V; V _{GS} = 0	--	10	uA
V _{SD}	Forward On-Voltage	I _S = 30A; V _{GS} = 0	--	1.5	V

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