

**isc N-Channel MOSFET Transistor**
**2SK4057**
**FEATURES**

- Drain Current :  $I_D = 53A @ T_C = 25^\circ C$
- Drain Source Voltage :  $V_{DSS} = 30V(\text{Min})$
- Static Drain-Source On-Resistance :  $R_{DS(on)} = 0.1 \Omega (\text{Max}) @ V_{GS} = 10V$
- 100% avalanche tested
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

**DESCRIPTION**

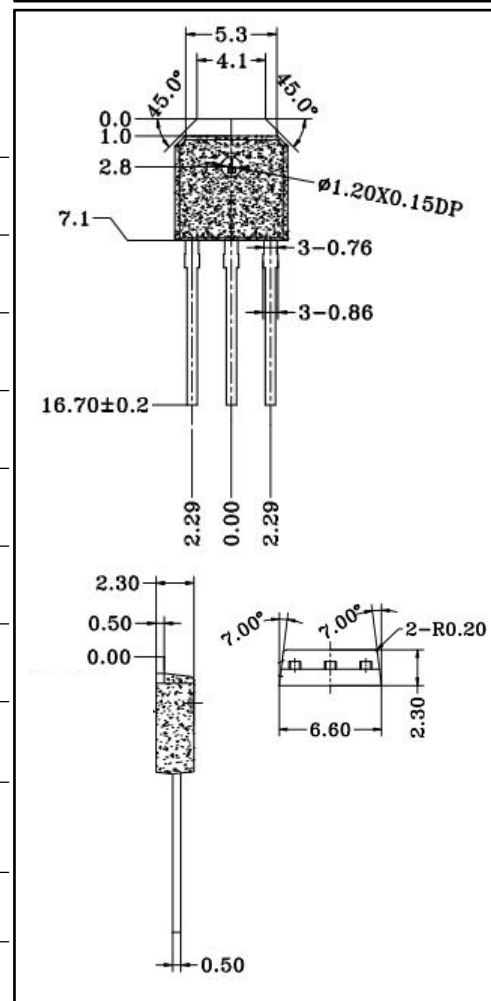
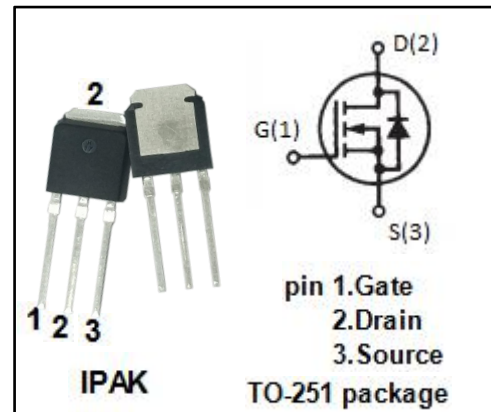
- motor drive, DC-DC converter, power switch and solenoid drive.

**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	$\pm 20$	V
$I_D$	Drain Current-Continuous	53	A
$I_{DM}$	Drain Current-Single Pluse	165	A
$P_D$	Total Dissipation @ $T_C = 25^\circ C$	28	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	4.5	$^\circ C/W$



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## ELECTRICAL CHARACTERISTICS

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

SYMBOL	PARAMETER	CONDITIONS	MIN	MAX	UNIT
V <sub>(BR)DSS</sub>	Drain-Source Breakdown Voltage	V <sub>GS</sub> = 0; I <sub>D</sub> = 0.25mA	30	--	V
V <sub>GS(th)</sub>	Gate Threshold Voltage	V <sub>DS</sub> = 10V; I <sub>D</sub> = 0.25mA	1.2	3.0	V
R <sub>DS(on)1</sub>	Drain-Source On-Resistance	V <sub>GS</sub> = 10V; I <sub>D</sub> = 10A	--	0.1	Ω
I <sub>GSS</sub>	Gate-Body Leakage Current	V <sub>GS</sub> = ±20V; V <sub>DS</sub> = 0	--	±0.1	uA
I <sub>DSS</sub>	Zero Gate Voltage Drain Current	V <sub>DS</sub> = 30V; V <sub>GS</sub> = 0	--	1.0	uA
V <sub>SD</sub>	Forward On-Voltage	I <sub>S</sub> = 3.0A; V <sub>GS</sub> = 0	--	1.2	V

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