

**isc N-Channel MOSFET Transistor**
**2SK659**
**FEATURES**

- Drain Current :  $I_D = 12A @ T_C = 25^\circ C$
- Drain Source Voltage  
:  $V_{DSS} = 60V(\text{Min})$
- Static Drain-Source On-Resistance  
:  $R_{DS(on)} = 75m\Omega (\text{Max}) @ V_{GS} = 10V$
- 100% avalanche tested
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

**DESCRIPTION**

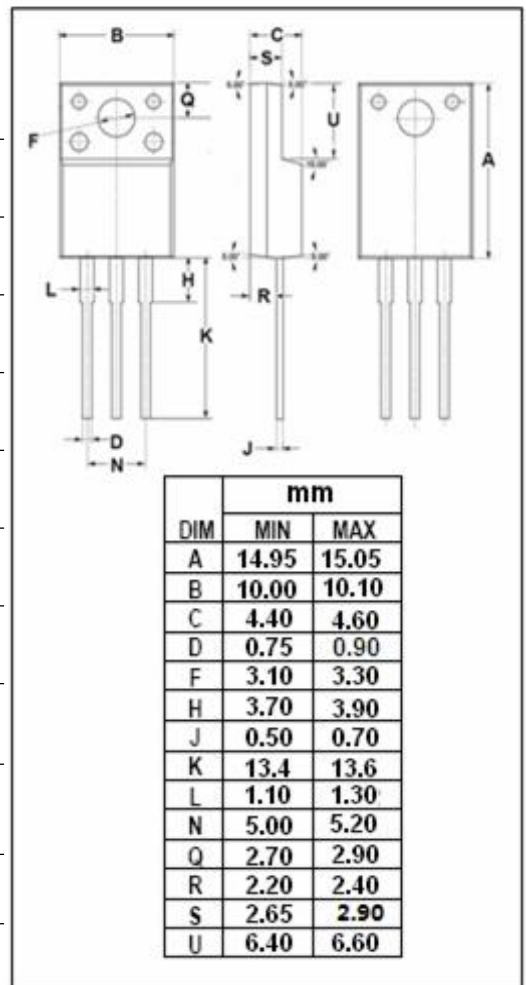
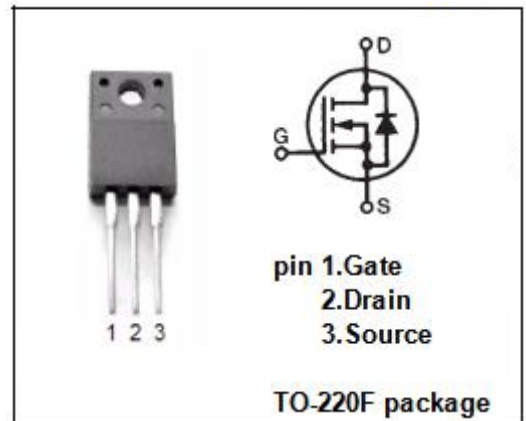
- motor drive, DC-DC converter, power switch and solenoid drive.

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

SYMBOL	PARAMETER	VALUE	UNIT
$V_{DSS}$	Drain-Source Voltage	60	V
$V_{GS}$	Gate-Source Voltage-Continuous	$\pm 20$	V
$I_D$	Drain Current-Continuous	12	A
$I_{DM}$	Drain Current-Single Pluse	60	A
$P_D$	Total Dissipation @ $T_C = 25^\circ C$	35	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	3.57	$^\circ C/W$



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## ELECTRICAL CHARACTERISTICS

 $T_C=25^\circ\text{C}$  unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN	MAX	UNIT
$V_{(BR)DSS}$	Drain-Source Breakdown Voltage	$V_{GS}=0; I_D=1.0\text{mA}$	60	--	V
$V_{GS(th)}$	Gate Threshold Voltage	$V_{DS}=10\text{V}; I_D=1.0\text{mA}$	1.0	2.5	V
$R_{DS(on)}$	Drain-Source On-Resistance	$V_{GS}=10\text{V}; I_D=6.0\text{A}$	--	75	$\text{m}\Omega$
$I_{GSS}$	Gate-Body Leakage Current	$V_{GS}=\pm 20\text{V}; V_{DS}=0$	--	$\pm 0.1$	$\mu\text{A}$
$I_{DSS}$	Zero Gate Voltage Drain Current	$V_{DS}=60\text{V}; V_{GS}=0$	--	10	$\mu\text{A}$
$V_{SD}$	Forward On-Voltage	$I_S=6.0\text{A}; V_{GS}=0$	--	1.7	V

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