

# isc N-Channel MOSFET Transistor

# TK39N60W

### • FEATURES

- With TO-247 packaging
- With low gate drive requirements
- Low gate input resistance
- 100% avalanche tested
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

### • APPLICATIONS

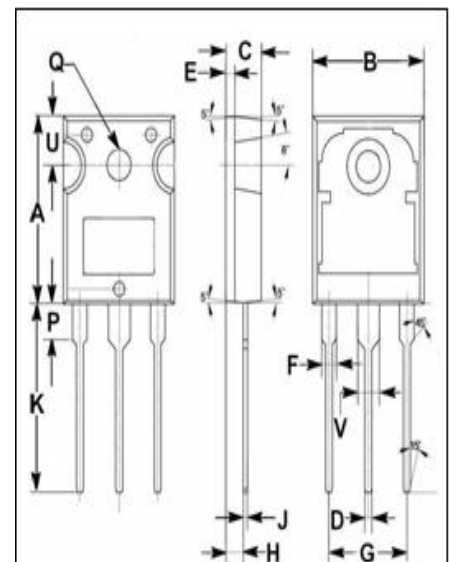
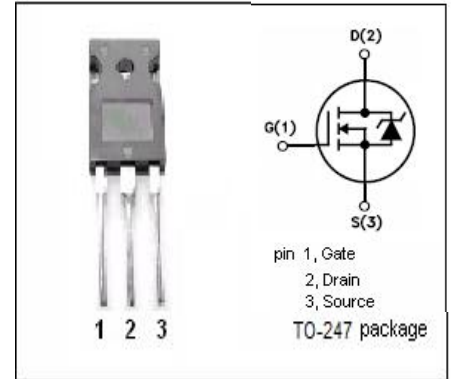
- Switching applications

### • ABSOLUTE MAXIMUM RATINGS(T<sub>a</sub>=25°C)

SYMBOL	PARAMETER	VALUE	UNIT
V <sub>DSS</sub>	Drain-Source Voltage	600	V
V <sub>GSS</sub>	Gate-Source Voltage	±30	V
I <sub>D</sub>	Drain Current-Continuous	38.8	A
I <sub>DM</sub>	Drain Current-Single Pulsed	155	A
P <sub>D</sub>	Total Dissipation	270	W
T <sub>j</sub>	Operating Junction Temperature	-50~150	°C
T <sub>stg</sub>	Storage Temperature	-50~150	°C

### • THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	MAX	UNIT
R <sub>th(ch-c)</sub>	Channel-to-case thermal resistance	0.46	°C/W



DIM	mm	
	MIN	MAX
A	19.80	20.20
B	15.40	15.80
C	4.90	5.10
D	0.90	1.10
E	1.40	1.60
F	1.90	2.10
G	10.80	11.00
H	2.40	2.60
J	0.50	0.70
K	19.50	20.50
P	3.90	4.10
Q	3.30	3.50
U	5.20	5.40
V	2.90	3.10

**isc N-Channel MOSFET Transistor****TK39N60W****ELECTRICAL CHARACTERISTICS** $T_C=25^{\circ}\text{C}$  unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP	MAX	UNIT
$BV_{DSS}$	Drain-Source Breakdown Voltage	$V_{GS}=0V; I_D=10\text{mA}$	600			V
$V_{GS(th)}$	Gate Threshold Voltage	$V_{DS}=V_{GS}; I_D=1.9\text{mA}$	2.7		3.7	V
$R_{DS(on)}$	Drain-Source On-Resistance	$V_{GS}=10V; I_D=19.4\text{A}$		55	65	$\text{m}\Omega$
$I_{GSS}$	Gate-Source Leakage Current	$V_{GS}=\pm 30V; V_{DS}=0V$			$\pm 1$	$\mu\text{A}$
$I_{DSS}$	Drain-Source Leakage Current	$V_{DS}=600V; V_{GS}=0V$			10	$\mu\text{A}$
$V_{SDF}$	Diode forward voltage	$I_{SD}=38.8\text{A}, V_{GS}=0V$			1.7	V

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