

# Isc N-Channel MOSFET Transistor

# TK30A06N1, ITK30A06N1

**• FEATURES**

- Low drain-source on-resistance:  
 $R_{DS(ON)} = 12.2m\Omega$  (typ.) ( $V_{GS} = 10 V$ )
- Enhancement mode:  
 $V_{th} = 2.0$  to  $4.0V$  ( $V_{DS} = 10 V, I_D=0.2mA$ )
- 100% avalanche tested
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

**• DESCRIPTION**

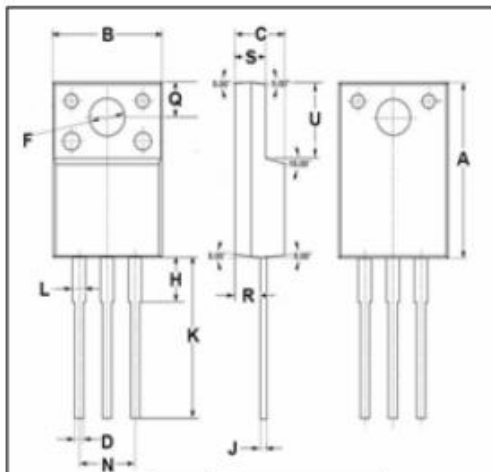
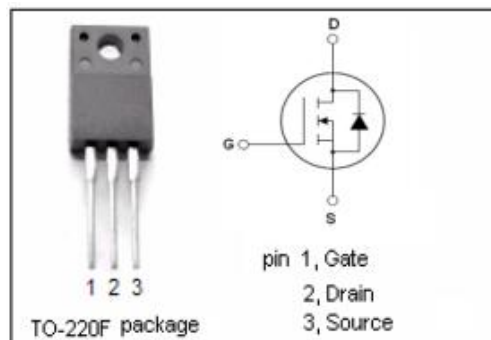
- Switching Voltage Regulators

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

SYMBOL	PARAMETER	VALUE	UNIT
$V_{DSS}$	Drain-Source Voltage	60	V
$V_{GS}$	Gate-Source Voltage	$\pm 20$	V
$I_D$	Drain Current-Continuous	30	A
$I_{DM}$	Drain Current-Single Pulsed	95	A
$P_D$	Total Dissipation @ $T_c=25^\circ C$	25	W
$T_j$	Max. Operating Junction Temperature	150	$^\circ C$
$T_{stg}$	Storage Temperature	-55~150	$^\circ C$

**• THERMAL CHARACTERISTICS**

SYMBOL	PARAMETER	MAX	UNIT
$R_{th(ch-c)}$	Channel-to-case thermal resistance	5.00	$^\circ C/W$
$R_{th(ch-a)}$	Channel-to-ambient thermal resistance	62.5	$^\circ C/W$



DIM	mm	
	MIN	MAX
A	14.95	15.05
B	10.00	10.10
C	4.40	4.60
D	0.75	0.90
F	3.10	3.30
H	3.70	3.90
J	0.50	0.70
K	13.4	13.6
L	1.10	1.30
N	5.00	5.20
Q	2.70	2.90
R	2.20	2.40
S	2.65	2.90
U	6.40	6.60

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### ELECTRICAL CHARACTERISTICS

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

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP	MAX	UNIT
$BV_{DSS}$	Drain-Source Breakdown Voltage	$V_{GS}=0V; I_D=10\text{mA}$	60			V
$V_{GS(th)}$	Gate Threshold Voltage	$V_{DS}=10V; I_D=0.2\text{mA}$	2.0		4.0	V
$R_{DS(on)}$	Drain-Source On-Resistance	$V_{GS}=10V; I_D=15A$		12.2	15.0	$\text{m}\Omega$
$I_{GSS}$	Gate-Source Leakage Current	$V_{GS}=\pm 20V; V_{DS}=0V$			$\pm 0.1$	$\mu\text{A}$
$I_{DSS}$	Drain-Source Leakage Current	$V_{DS}=60V; V_{GS}=0V$			10	$\mu\text{A}$
$V_{SDF}$	Diode forward voltage	$I_{DR}=30A, V_{GS}=0V$			1.2	V

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