

isc N-Channel MOSFET Transistor

TK40A10N1, ITK40A10N1

• FEATURES

- Low drain-source on-resistance:
 $R_{DS(ON)} = 8.2m\Omega$ ($V_{GS} = 10V$)
- Enhancement mode:
 $V_{th} = 2.0$ to $4.0V$ ($V_{DS} = 10V$, $I_D = 0.5mA$)
- 100% avalanche tested
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

• DESCRIPTION

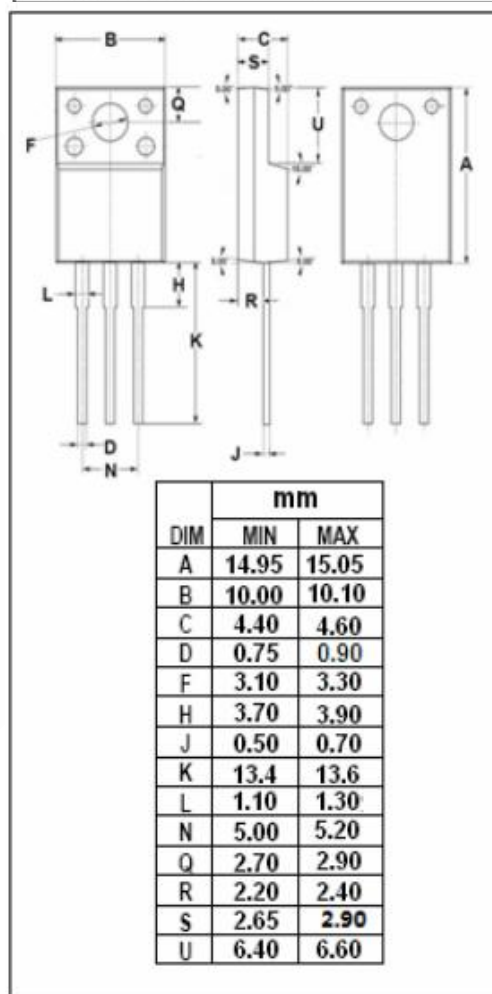
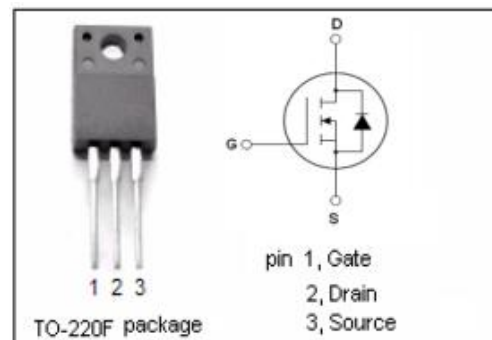
- Switching Voltage Regulators

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

SYMBOL	PARAMETER	VALUE	UNIT
V_{DS}	Drain-Source Voltage	100	V
V_{GS}	Gate-Source Voltage	± 20	V
I_D	Drain Current-Continuous	40	A
I_{DM}	Drain Current-Single Pulsed	171	A
P_D	Total Dissipation @ $T_c = 25^\circ C$	35	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	3.57	$^\circ C/W$
$R_{th(ch-a)}$	Channel-to-ambient thermal resistance	62.5	$^\circ C/W$



Isc N-Channel MOSFET Transistor
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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	$V_{GS}=0V; I_D=10mA$	100			V
$V_{GS(th)}$	Gate Threshold Voltage	$V_{DS}=10V; I_D=0.5mA$	2.0		4.0	V
$R_{DS(on)}$	Drain-Source On-Resistance	$V_{GS}=10V; I_D=20A$			8.2	$m\Omega$
I_{GSS}	Gate-Source Leakage Current	$V_{GS}=\pm 20V; V_{DS}=0V$			± 0.1	μA
I_{DSS}	Drain-Source Leakage Current	$V_{DS}=100V; V_{GS}=0V$			10	μA
V_{SDF}	Diode forward voltage	$I_{DR}=40A, V_{GS}=0V$			1.2	V