

isc N-Channel MOSFET Transistor

TK40E10N1, ITK40E10N1

• FEATURES

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

• DESCRIPTION

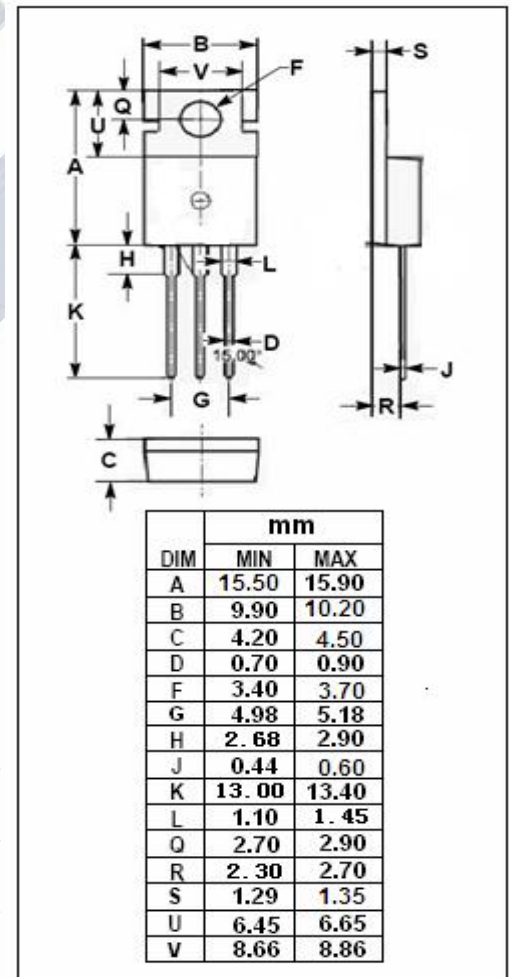
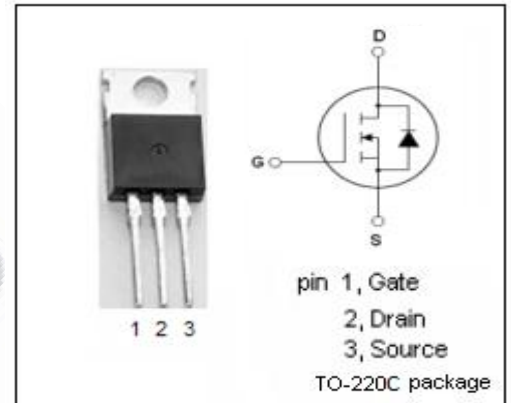
- Switching Voltage Regulators

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

SYMBOL	PARAMETER	VALUE	UNIT
V_{DSS}	Drain-Source Voltage	100	V
V_{GS}	Gate-Source Voltage	± 20	V
I_D	Drain Current-Continuous	90	A
I_{DM}	Drain Current-Single Pulsed	171	A
P_D	Total Dissipation @ $T_c = 25^\circ C$	126	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	0.99	$^\circ C/W$
$R_{th(ch-a)}$	Channel-to-ambient thermal resistance	83.3	$^\circ C/W$



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ELECTRICAL CHARACTERISTICS

 T_C=25°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	mΩ
I _{GSS}	Gate-Source Leakage Current	V _{GS} = ±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} = 0 V			1.2	V