

isc N-Channel MOSFET Transistor

TK20E60U, ITK20E60U

• FEATURES

- Low drain-source on-resistance:
 $R_{DS(on)} \leq 0.19\Omega$.
- Enhancement mode:
 $V_{TH} = 3.0$ to $5.0V$ ($V_{DS} = 10V$, $I_D = 1mA$)
- 100% avalanche tested
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

• DESCRIPTION

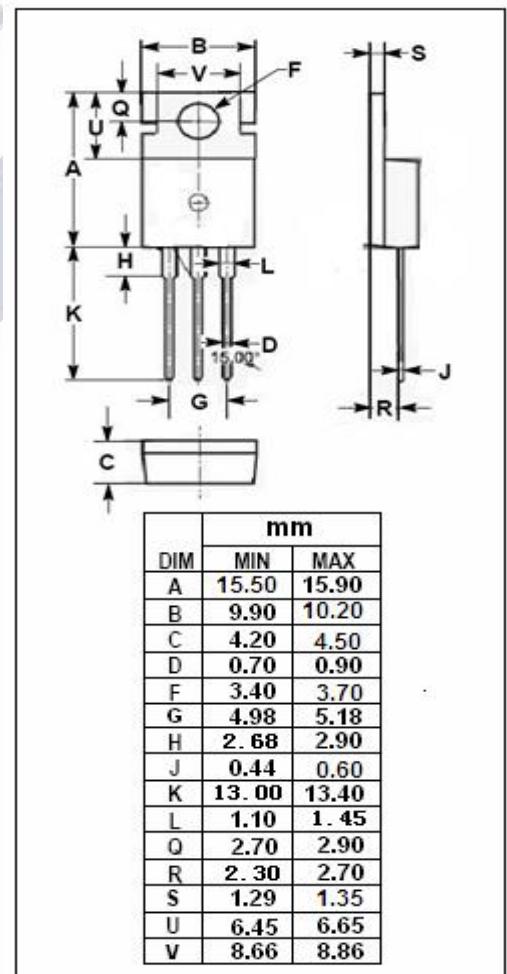
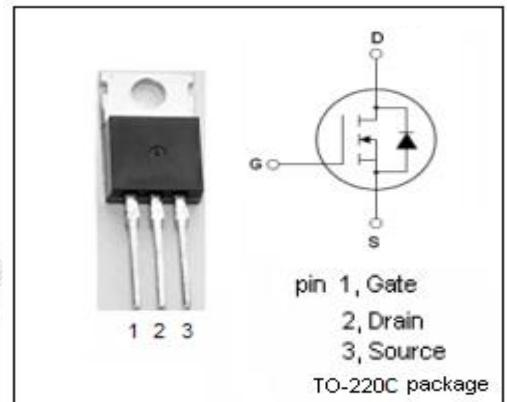
- Switching Voltage Regulators

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

SYMBOL	PARAMETER	VALUE	UNIT
V_{DSS}	Drain-Source Voltage	600	V
V_{GS}	Gate-Source Voltage	± 30	V
I_D	Drain Current-Continuous	20	A
I_{DM}	Drain Current-Single Pulsed	40	A
P_D	Total Dissipation @ $T_c=25^\circ C$	190	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	0.658	$^\circ C/W$
$R_{th(ch-a)}$	Channel-to-ambient thermal resistance	83.3	$^\circ C/W$



isc N-Channel MOSFET Transistor**TK20E60U, ITK20E60U****ELECTRICAL CHARACTERISTICS** $T_c=25^\circ\text{C}$ unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP	MAX	UNIT
BV_{DSS}	Drain-Source Breakdown Voltage	$\text{V}_{\text{GS}}=0\text{V}; \text{I}_D=10\text{mA}$	600			V
$\text{V}_{\text{GS(th)}}$	Gate Threshold Voltage	$\text{V}_{\text{DS}}=10\text{V}; \text{I}_D=1\text{mA}$	3.0		5.0	V
$\text{R}_{\text{DS(on)}}$	Drain-Source On-Resistance	$\text{V}_{\text{GS}}=10\text{V}; \text{I}_D=10\text{A}$			190	$\text{m}\Omega$
I_{GSS}	Gate-Source Leakage Current	$\text{V}_{\text{GS}}= \pm 30\text{V}; \text{V}_{\text{DS}}= 0\text{V}$			± 1	μA
I_{DSS}	Drain-Source Leakage Current	$\text{V}_{\text{DS}}=600\text{V}; \text{V}_{\text{GS}}= 0\text{V}$			100	μA
V_{SDF}	Diode forward voltage	$\text{I}_{\text{DR}} = 20\text{A}, \text{V}_{\text{GS}} = 0 \text{ V}$			1.7	V