

Isc N-Channel MOSFET Transistor TK80A04K3L, ITK80A04K3L

• FEATURES

- Low drain-source on-resistance:
 $R_{DS(ON)} = 2.4m\Omega$ (typ.) ($V_{GS} = 10 V$)
- Enhancement mode:
 $V_{th} = 2.0$ to $3.0V$ ($V_{DS} = 10 V, I_D=1mA$)
- 100% avalanche tested
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

• DESCRIPTION

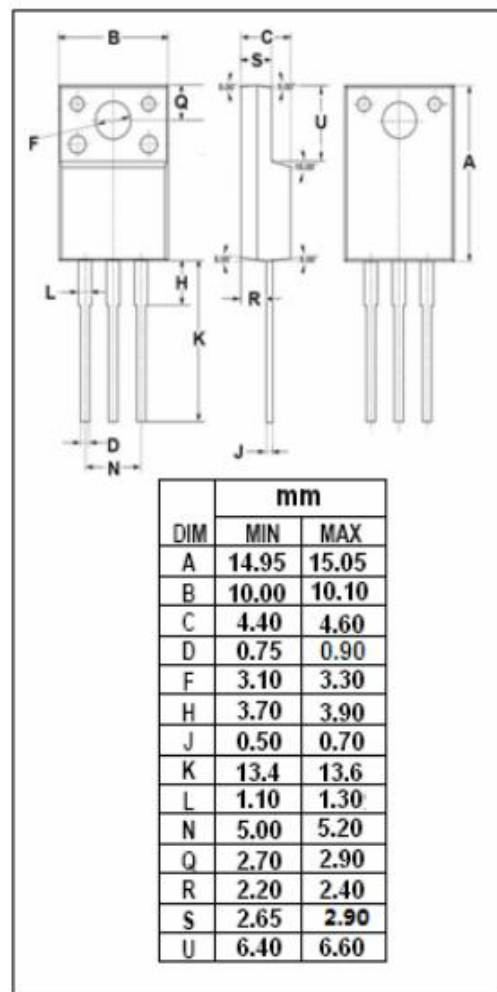
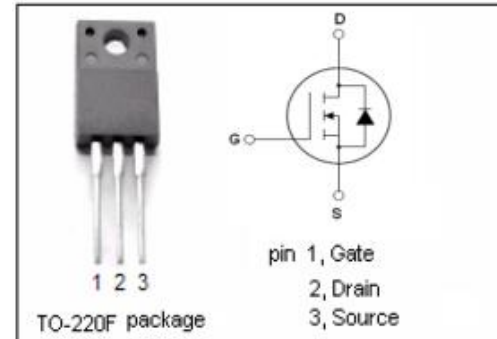
- Switching Voltage Regulators

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

SYMBOL	PARAMETER	VALUE	UNIT
V_{DSS}	Drain-Source Voltage	40	V
V_{GS}	Gate-Source Voltage	± 20	V
I_D	Drain Current-Continuous	80	A
I_{DM}	Drain Current-Single Pulsed	320	A
P_D	Total Dissipation @ $T_c=25^\circ C$	48	W
T_j	Max. Operating Junction Temperature	175	$^\circ C$
T_{stg}	Storage Temperature	-55~175	$^\circ C$

• THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	MAX	UNIT
$R_{th(ch-c)}$	Channel-to-case thermal resistance	3.125	$^\circ C/W$
$R_{th(ch-a)}$	Channel-to-ambient thermal resistance	62.5	$^\circ C/W$



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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	$V_{GS}=0V; I_D=10\text{mA}$	40			V
$V_{GS(th)}$	Gate Threshold Voltage	$V_{DS}=10V; I_D=1\text{mA}$	2.0		3.0	V
$R_{DS(on)}$	Drain-Source On-Resistance	$V_{GS}=6V; I_D=40\text{A}$			3.5	$\text{m}\Omega$
		$V_{GS}=10V; I_D=40\text{A}$			2.4	
I_{GSS}	Gate-Source Leakage Current	$V_{GS}=\pm 16V; V_{DS}=0V$			± 10	μA
I_{DSS}	Drain-Source Leakage Current	$V_{DS}=40V; V_{GS}=0V$			10	μA
V_{SDF}	Diode forward voltage	$I_{DR}=80\text{A}, V_{GS}=0V$			1.2	V

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