

iscN-Channel MOSFET Transistor

TK12A50D

• FEATURES

- Low drain-source on-resistance:
 $R_{DS(ON)} = 0.52\Omega$ (MAX)
- Enhancement mode:
 $V_{th} = 2$ to $4V$ ($V_{DS} = 10V$, $I_D = 1.0mA$)
- 100% avalanche tested
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

• DESCRIPTION

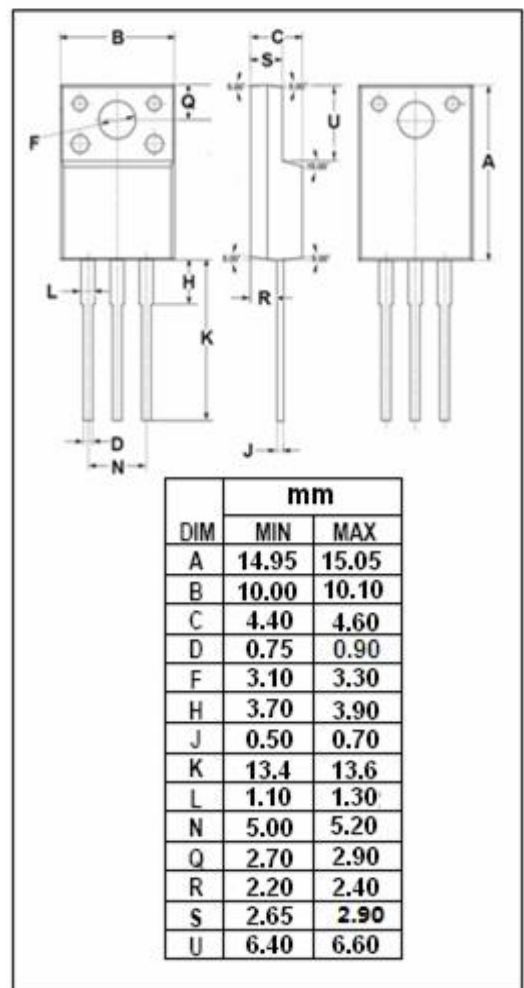
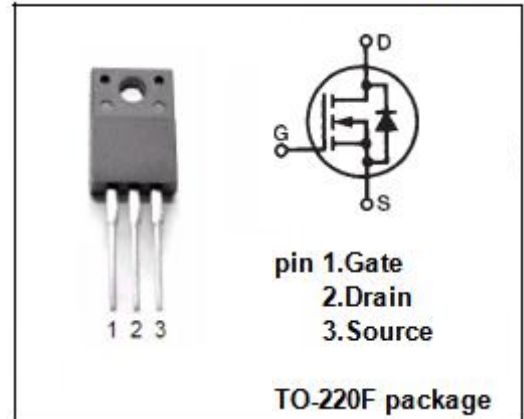
- Switching Voltage Regulators

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

SYMBOL	PARAMETER	VALUE	UNIT
V_{DS}	Drain-Source Voltage	500	V
V_{GS}	Gate-Source Voltage	± 30	V
I_D	Drain Current-Continuous	12	A
I_{DM}	Drain Current-Single Pulsed	48	A
P_D	Total Dissipation @ $T_c = 25^\circ C$	45	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	2.78	$^\circ C/W$



iscN-Channel MOSFET Transistor**TK12A50D****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	500			V
V _{GS(th)}	Gate Threshold Voltage	V _{DS} = 10V; I _D =1.0mA	2		4	V
R _{DS(on)}	Drain-Source On-Resistance	V _{GS} =10V; I _D =6A			520	mΩ
I _{GSS}	Gate-Source Leakage Current	V _{GS} = ±30V; V _{DS} = 0V			±1	μA
I _{DSS}	Drain-Source Leakage Current	V _{DS} =500V; V _{GS} = 0V			10	μA
V _{SDF}	Diode forward voltage	I _{DR} =12A, V _{GS} = 0 V			1.7	V

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