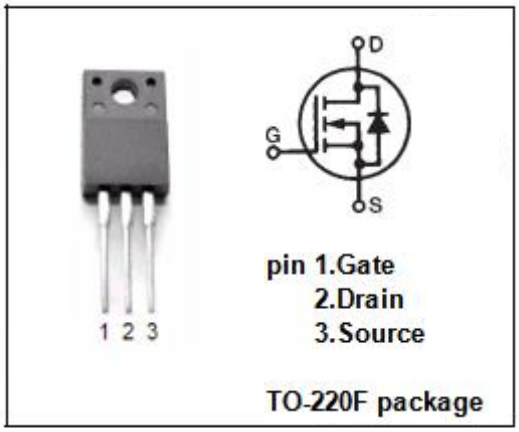
isc N-Channel MOSFET Transistor TK14A65W

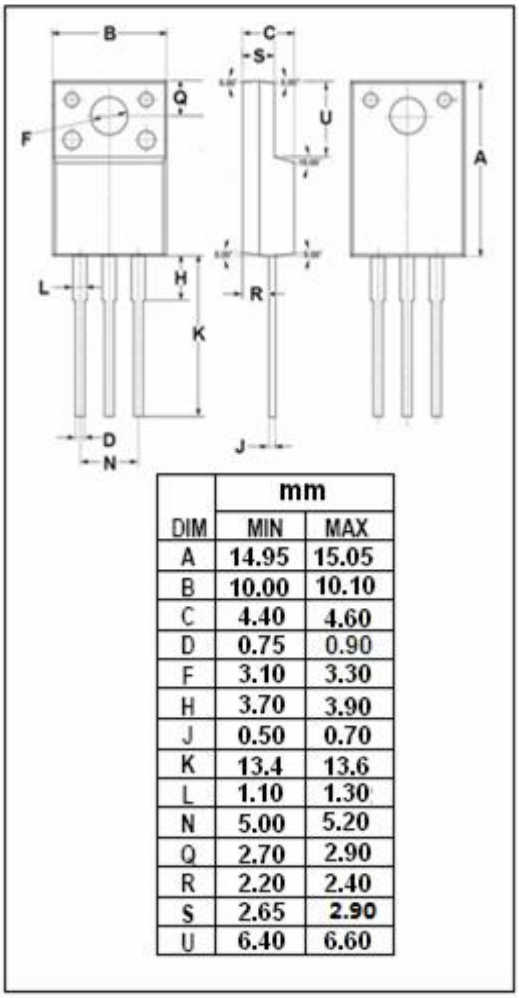


FEATURES

- Drain Current –I_D=17A@ T_C=25℃
- Drain Source Voltage-
  : V_{DSS}= 650V(Min)
- Static Drain-Source On-Resistance
  : $R_{DS(on)}$ = 210mΩ (Max) @ V_{GS}= 10V
- 100% avalanche tested
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

DESCRIPTION

- Designed for use in switch mode power supplies and general purpose applications.



DIM	mm MIN	mm MAX
A	14.95	15.05
B	10.00	10.10
C	4.40	4.60
D	0.75	0.90
F	3.10	3.30
H	3.70	3.90
J	0.50	0.70
K	13.4	13.6
L	1.10	1.30
N	5.00	5.20
Q	2.70	2.90
R	2.20	2.40
S	2.65	2.90
U	6.40	6.60

ABSOLUTE MAXIMUM RATINGS(T_a=25℃)

SYMBOL	PARAMETER	VALUE	UNIT
V_{DSS}	Drain-Source Voltage	650	V
V_{GS}	Gate-Source Voltage-Continuous	±30	V
I_D	Drain Current-Continuous	17	A
I_{DM}	Drain Current-Single Pluse	51	A
P_D	Total Dissipation @T_C=25℃	33	W
E_{AS}	Single pulse avalanche energy	250	mJ
I_{AS}	Avalanche Current	2.4	A
T_J	Max. Operating Junction Temperature	-55~150	℃
T_{stg}	Storage Temperature	-55~150	℃

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THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	MAX	UNIT
$R_{th\ j\text{-}c}$	Thermal Resistance, Junction to Case	3.79	℃/W

ELECTRICAL CHARACTERISTICS

T_C=25℃ unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP.	MAX	UNIT
$V_{(BR)DSS}$	Drain-Source Breakdown Voltage	V_{GS}= 0; I_D= 0.25mA	650	-	-	V
$V_{GS(th)}$	Gate Threshold Voltage	V_{DS}= V_{GS}; I_D= 0.25mA	2	-	4	V
$R_{DS(on)}$	Drain-Source On-Resistance	V_{GS}= 10V; I_D= 6.2A	-	185	210	mΩ
I_{GSS}	Gate-Body Leakage Current	V_{GS}= ±20V;V_{DS}= 0	-	-	±1	uA
I_{DSS}	Zero Gate Voltage Drain Current	V_{DS}= 650V; V_{GS}= 0	-	-	1	μA
C_{iss}	Input Capacitance	V_{GS} = 0V, V_{DS} = 400V, f = 1.0MHz	-	1750	-	pF
C_{oss}	Output Capacitance		-	39	-	
C_{rss}	Reverse Transfer Capacitance		-	3.4	-	
Q_g	Total Gate Charge	I_D = 8.7A, V_{DD} = 520V V_{GS} = 10V	-	40	-	nC
Q_{gs}	Gate-Source Charge		-	8	-	
Q_{gd}	Gate-Drain Charge		-	12	-	
$t_{d(on)}$	Turn-on Delay Time	V_{DD} = 325V, I_D = 8.7A, R_G = 25Ω, V_{GS} = 10V	-	39	-	ns
t_r	Turn-on Rise Time		-	21	-	
$t_{d(off)}$	Turn-off Delay Time		-	171	-	
t_f	Turn-off Fall Time		-	18	-	

ELECTRICAL CHARACTERISTICS (T_C=25℃)

Drain - Source Body Diode Characteristics						
V_{SD}	Diode Forward Voltage	I_{SD}= 8.7A; V_{GS}= 0V	-	-	1.2	V
t_{rr}	Reverse Recovery Time	V_{DD} = 400V,I_F = 48.7A, di_F/dt = 100A /μs	-	340	-	ns
Q_{rr}	Reverse Recovery Charge		-	4.7	-	uC