

isc N-Channel MOSFET Transistor

TK14A65W

FEATURES

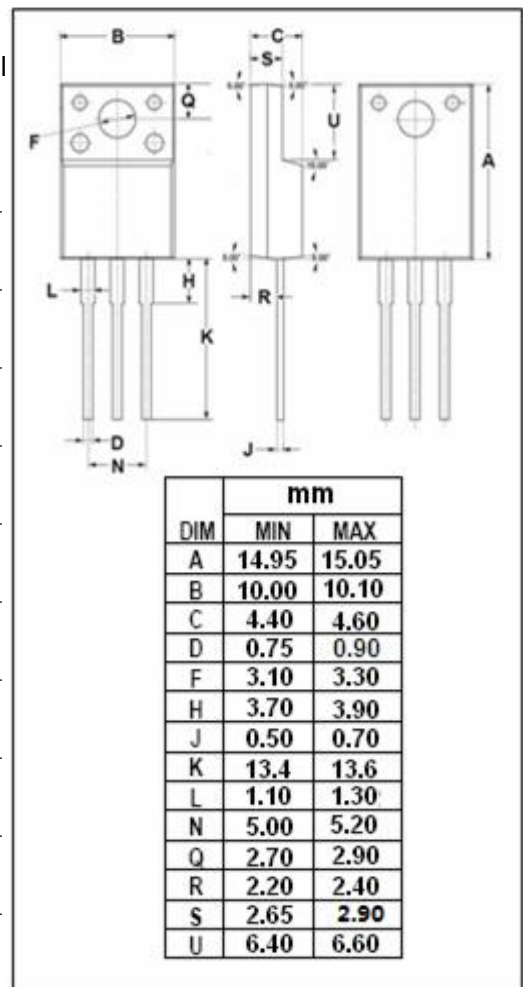
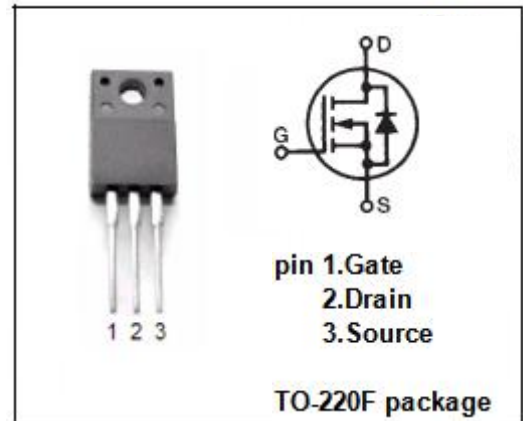
- Drain Current $-I_D = 17A @ T_C = 25^\circ C$
- Drain Source Voltage-
: $V_{DSS} = 650V(\text{Min})$
- Static Drain-Source On-Resistance
: $R_{DS(on)} = 210m\Omega (\text{Max}) @ V_{GS} = 10V$
- 100% avalanche tested
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

DESCRIPTION

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

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

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 @ $T_C = 25^\circ C$	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	$^\circ C$
T_{stg}	Storage Temperature	-55~150	$^\circ C$



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THERMAL CHARACTERISTICS

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

ELECTRICAL CHARACTERISTICS

 $T_C=25^{\circ}\text{C}$ unless otherwise specified

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

isc N-Channel MOSFET Transistor**TK14A65W****ELECTRICAL CHARACTERISTICS (T_c=25°C)**

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

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