

650V N-Channel Power MOSFET

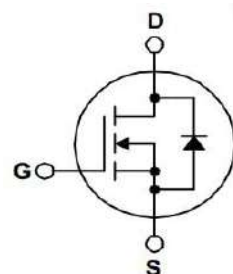
The KW10N65F is silicon N-Channel Enhanced VDMOSFETS, is Obtained by the self-aligned Planar Technology with reduce the Conduction loss, improve switching performance and enhance the Avalanche energy.

Features:

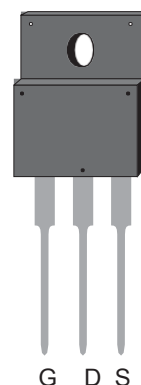
- $V_{DS}=650V, I_D=10A$
- Low ON Resistance
- Low Reverse transfer capacitances
- 100% Single Pulse avalanche energy Test

Application:

- UPS
- Adaptor
- Power switching application



ITO-220AB



Electrical Characteristics @ $T_a=25^{\circ}C$ (unless otherwise specified)

a) Limited Parameters:

Symbol	Parameter	Value	Units
V_{DSS}	Drain-to-Source Breakdown Voltage	650	V
I_D	Drain Current (continuous) at $T_c=25^{\circ}C$	10	A
I_{DM}	Drain Current (pulsed)	40	A
V_{GS}	Gate to Source Voltage	+/-30	V
P_{tot}	Total Dissipation at $T_c=25^{\circ}C$	50	W
T_j	Max. Operating Junction Temperature	175	$^{\circ}C$
Eas	Single Pulse Avalanche Energy	700	mj

b) Electrical Parameters:

Symbol	Parameter	Test Conditions	Min	Typ	Max	Unit
V_{DS}	Drain-source Voltage	$V_{GS}=0V, I_D=250\mu A$	650			V
$R_{DS(on)}$	Static Drain-to-Source on-Resistance	$V_{GS}=10V, I_D=5A$		0.60	0.85	Ω
$V_{GS(th)}$	Gated Threshold Voltage	$V_{DS}=V_{GS}, I_D=250\mu A$	2.0	3.1	4.0	V
I_{DSS}	Zero Gate Voltage Drain Current	$V_{DS}=650V, V_{GS}=0V$			1.0	μA
$I_{GSS(F)}$	Gated Body Leakage Current	$V_{GS}=+30V,$			1.0	μA
$I_{GSS(R)}$	Gated Body Leakage Current	$V_{GS}=-30V,$			-1.0	μA
C_{iss}	Input Capacitance	$V_{GS}=0V,$ $V_{DS}=25V,$ $f=1.0MHz$		1511		pF
C_{oss}	Output Capacitance			141		pF
C_{rss}	Reverse Transfer Capacitance			15		pF
Q_g	Total Gate Charge	$V_{DS}=300V$ $I_D=10A$ $V_{GS}=10V$		35		nC
Q_{gs}	Gate-Source Charge			10		nC
Q_{gd}	Gate-Drain Charge			12		nC

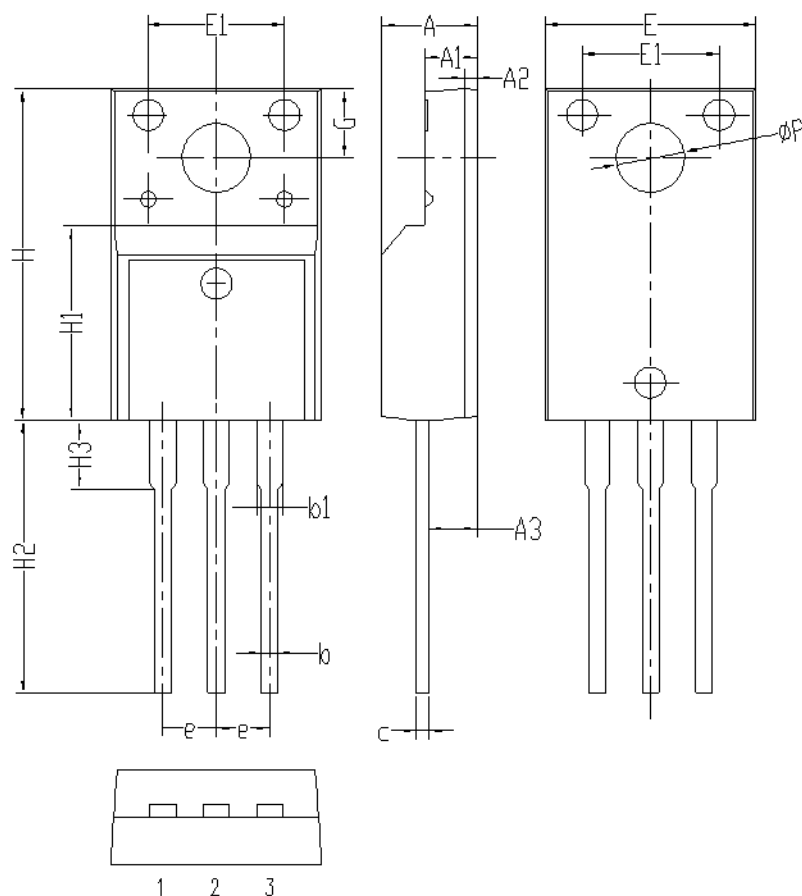
Symbol	Parameter	Test Conditions	Min	Typ	Max	Unit
$t_{d(on)}$	Turn-on Delay Time	$V_{DD}=300V, I_D=10A$ $V_{GS}=10V, R_G=10\Omega$		27		nS
t_r	Turn-on Rise Time			23		nS
$t_{d(off)}$	Turn-off Delay Time			50		nS
t_f	Turn-off Fall Time			35		nS

Symbol	Parameter	Test Conditions	Min	Typ	Max	Unit
I _{SD}	S-D Current(Body Diode)			10		A
I _{SDM}	Pulsed S-D Current(Body Diode)			40		A
V _{SD}	Diode Forward Voltage	V _{GS} =0V, I _{DS} =10A			1.4	v
t _{rr}	Reverse Recovery Time	T _J =25℃, I _F =10A di/dt=100A/us		528		nS
Q _{rr}	Reverse Recovery Charge			3200		nC
	*Pulse Test: Pulse Width <= 300μs, Duty Cycle< =2%					

Symbol	Parameter	Typ	Units
$R_{\theta JC}$	Junction-to-Case	1.2	$^\circ C/W$

Package Information

ITO-220AB PACKAGE



	Unit: mm		
	MIN	NOM	MAX
A	4.35	4.55	4.75
A 1	2.3	2.5	2.7
A 2	0.4	0.6	0.8
A 3	2.1	2.3	2.5
b	0.6	0.8	1.0
b 1	1.0	1.2	1.4
c	0.3	0.5	0.7
e	2.3	2.5	2.7
E	9.8	10	10.2
E 1	6.3	6.5	6.7
H	15.6	15.8	16.0
H 1	8.8	9	9.2
H 2	12.9	13.2	13.5
H 3	3.1	3.3	3.5
G	3.1	3.3	3.5
ΦP	3.1	3.3	3.5