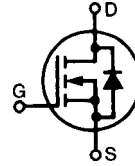


# High Current MegaMOS™ FET

## IXTK 62N25

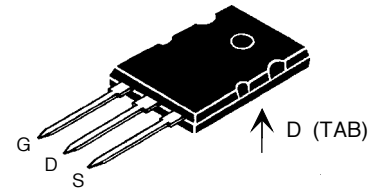
$$\begin{aligned} V_{DSS} &= 250 \text{ V} \\ I_{D25} &= 62 \text{ A} \\ R_{DS(on)} &= 35 \text{ m}\Omega \end{aligned}$$

N-Channel Enhancement Mode



Symbol	Test conditions	Maximum ratings	
$V_{DSS}$	$T_J = 25^\circ\text{C}$ to $150^\circ\text{C}$	250	V
$V_{DGR}$	$T_J = 25^\circ\text{C}$ to $150^\circ\text{C}$ ; $R_{GS} = 1.0 \text{ M}\Omega$	250	V
$V_{GS}$	Continuous	$\pm 20$	V
$V_{GSM}$	Transient	$\pm 30$	V
$I_{D25}$	$T_C = 25^\circ\text{C}$	62	A
$I_{DM}$	$T_C = 25^\circ\text{C}$ , pulse width limited by $T_{JM}$	248	A
$I_{AR}$	$T_C = 25^\circ\text{C}$	62	A
$E_{AR}$	$T_C = 25^\circ\text{C}$	45	mJ
$E_{AS}$	$T_C = 25^\circ\text{C}$	1.5	J
$dv/dt$	$I_S \leq I_{DM}$ , $di/dt \leq 100 \text{ A}/\mu\text{s}$ , $V_{DD} \leq V_{DSS}$ $T_J \leq 150^\circ\text{C}$ , $R_G = 2 \Omega$	5	V/ns
$P_D$	$T_C = 25^\circ\text{C}$	390	W
$T_J$		-55 ... +150	$^\circ\text{C}$
$T_{JM}$		150	$^\circ\text{C}$
$T_{stg}$		-55 ... +150	$^\circ\text{C}$
$T_L$	1.6 mm (0.063 in.) from case for 10 s	300	$^\circ\text{C}$
$M_d$	Mounting torque	0.7/6	Nm/lb.in.
<b>Weight</b>	TO-264	10	g

TO-264 AA (IXTK)



G = Gate      D = Drain  
S = Source      Tab = Drain

### Features

- Low  $R_{DS(on)}$  HDMOS™ process
- Rugged polysilicon gate cell structure
- International standard package
- Fast switching times

### Applications

- Motor controls
- DC choppers
- Switched-mode power supplies

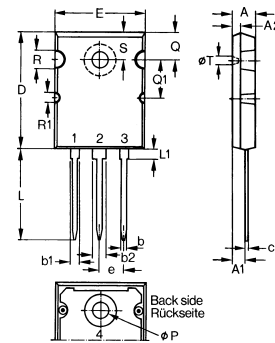
### Advantages

- Easy to mount with one screw (isolated mounting screw hole)
- Space savings
- High power density

Symbol	Test Conditions ( $T_J = 25^\circ\text{C}$ unless otherwise specified)	Characteristic Values		
		Min.	Typ.	Max.
$V_{DSS}$	$V_{GS} = 0 \text{ V}$ , $I_D = 1 \text{ mA}$	250		V
$V_{GS(th)}$	$V_{DS} = V_{GS}$ , $I_D = 250 \mu\text{A}$	2.0		V
$I_{GSS}$	$V_{GS} = \pm 20 \text{ V DC}$ , $V_{DS} = 0$			$\pm 100 \text{ nA}$
$I_{DSS}$	$V_{DS} = V_{DSS}$ , $T_J = 25^\circ\text{C}$ $V_{GS} = 0 \text{ V}$ , $T_J = 125^\circ\text{C}$			50 $\mu\text{A}$ 2 mA
$R_{DS(on)}$	$V_{GS} = 10 \text{ V}$ , $I_D = 0.5 I_{D25}$ Pulse test, $t \leq 300 \text{ ms}$ , duty cycle $d \leq 2\%$			35 m $\Omega$

Symbol	Test Conditions	Characteristic values		
		Min.	Typ.	Max.
$g_{fs}$	$V_{DS} = 10\text{ V}; I_D = 0.5 I_{D25}$ , pulse test	35	50	S
$C_{iss}$	$V_{GS} = 0\text{ V}, V_{DS} = 25\text{ V}, f = 1\text{ MHz}$		6600	pF
$C_{oss}$			1125	pF
$C_{rss}$			270	pF
$t_{d(on)}$	$V_{GS} = 10\text{ V}, V_{DS} = 0.5 V_{DSS}, I_D = 0.5 I_{D25}$ $R_G = 1.5\ \Omega$ (External)		30	ns
$t_r$			25	ns
$t_{d(off)}$			115	ns
$t_f$			15	ns
$Q_{g(on)}$	$V_{GS} = 10\text{ V}, V_{DS} = 0.5 V_{DSS}, I_D = 0.5 I_{D25}$		240	nC
$Q_{gs}$			55	nC
$Q_{gd}$			85	nC
$R_{thJC}$				0.30 K/W
$R_{thCK}$		0.15		K/W

TO-264 AA Outline



Dim.	Millimeter		Inches	
	Min.	Max.	Min.	Max.
A	4.82	5.13	.190	.202
A1	2.54	2.89	.100	.114
A2	2.00	2.10	.079	.083
b	1.12	1.42	.044	.056
b1	2.39	2.69	.094	.106
b2	2.90	3.09	.114	.122
c	0.53	0.83	.021	.033
D	25.91	26.16	1.020	1.030
E	19.81	19.96	.780	.786
e	5.46 BSC		.215 BSC	
J	0.00	0.25	.000	.010
K	0.00	0.25	.000	.010
L	20.32	20.83	.800	.820
L1	2.29	2.59	.090	.102
P	3.17	3.66	.125	.144
Q	6.07	6.27	.239	.247
Q1	8.38	8.69	.330	.342
R	3.81	4.32	.150	.170
R1	1.78	2.29	.070	.090
S	6.04	6.30	.238	.248
T	1.57	1.83	.062	.072

### Source-Drain Diode

### Ratings and Characteristics

( $T_J = 25^\circ\text{C}$  unless otherwise specified)

Symbol	Test Conditions	Min.	Typ.	Max.
$I_S$	$V_{GS} = 0\text{ V}$			62 A
$I_{SM}$	Repetitive; pulse width limited by $T_{JM}$			248 A
$V_{SD}$	$I_F = I_S, V_{GS} = 0\text{ V}$ , Pulse test, $t \leq 300\ \mu\text{s}$ , duty cycle $d \leq 2\%$			1.5 V
$t_{rr}$	$I_F = 30\text{ A}, -di/dt = 100\text{ A}/\mu\text{s}, V_R = 100\text{ V}$		360	ns
$Q_{rr}$			6	$\mu\text{C}$

IXYS reserves the right to change limits, test conditions, and dimensions.

This datasheet has been downloaded from:

[www.DatasheetCatalog.com](http://www.DatasheetCatalog.com)

Datasheets for electronic components.



LittleDiode supplies new, hard to find or obsolete electronic components and semiconductors all over the world.

With over two million different components listed you are sure to find the part you need.

Feel free to visit us today at our online store:

[LittleDiode.com](http://LittleDiode.com)

Looking forward to providing you with the best possible service.