



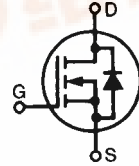
Advance Technical Information

High Current MegaMOS™ FET

IXTK 62N25

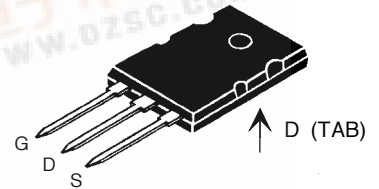
V_{DSS} = 250 V
I_{D25} = 62 A
R_{DS(on)} = 35 mΩ

N-Channel Enhancement Mode



Symbol	Test conditions	Maximum ratings	
V _{DSS}	T _J = 25°C to 150°C	250	V
V _{DGR}	T _J = 25°C to 150°C; R _{GS} = 1.0 MΩ	250	V
V _{GS}	Continuous	±20	V
V _{GSM}	Transient	±30	V
I _{D25}	T _C = 25°C	62	A
I _{DM}	T _C = 25°C, pulse width limited by T _{JM}	248	A
I _{AR}	T _C = 25°C	62	A
E _{AR}	T _C = 25°C	45	mJ
E _{AS}	T _C = 25°C	1.5	J
dv/dt	I _S ≤ I _{DM} , di/dt ≤ 100 A/μs, V _{DD} ≤ V _{DSS} T _J ≤ 150°C, R _G = 2 Ω	5	V/ns
P _D	T _C = 25°C	390	W
T _J		-55 ... +150	°C
T _{JM}		150	°C
T _{stg}		-55 ... +150	°C
T _L	1.6 mm (0.063 in.) from case for 10 s	300	°C
M _d	Mounting torque	0.7/6	Nm/lb.in.
Weight	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

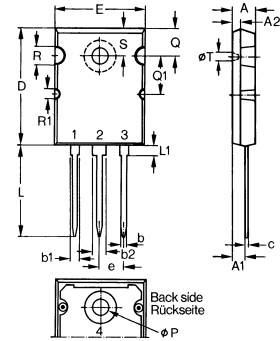
- Easy to mount with one screw (isolated mounting screw hole)
- Space savings
- High power density

Symbol	Test Conditions (T _J = 25°C unless otherwise specified)	Characteristic Values		
		Min.	Typ.	Max.
V _{DSS}	V _{GS} = 0 V, I _D = 1 mA	250		V
V _{GS(th)}	V _{DS} = V _{GS} , I _D = 250 μA	2.0		4.0 V
I _{GSS}	V _{GS} = ±20 V DC, V _{DS} = 0			±100 nA
I _{DSS}	V _{DS} = V _{DSS} V _{GS} = 0 V			50 μA
				2 mA
R _{DS(on)}	V _{GS} = 10 V, I _D = 0.5 I _{D25} Pulse test, t ≤ 300 ms, duty cycle d ≤ 2%			35 mΩ



Symbol	Test Conditions ($T_J = 25^\circ\text{C}$ unless otherwise specified)	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} C_{oss} C_{rss}	$V_{GS} = 0\text{ V}, V_{DS} = 25\text{ V}, f = 1\text{ MHz}$		6600	pF
			1125	pF
			270	pF
$t_{d(on)}$ t_r $t_{d(off)}$ t_f	$V_{GS} = 10\text{ V}, V_{DS} = 0.5 V_{DSS}, I_D = 0.5 I_{D25}$ $R_G = 1.5\ \Omega$ (External)		30	ns
			25	ns
			115	ns
			15	ns
$Q_{g(on)}$ Q_{gs} Q_{gd}	$V_{GS} = 10\text{ V}, V_{DS} = 0.5 V_{DSS}, I_D = 0.5 I_{D25}$		240	nC
			55	nC
			85	nC
R_{thJC} R_{thCK}		0.15	0.30 K/W K/W	

TO-264 AA Outline



Dim.	Millimeter		Inches	
	Min.	Max.	Min.	Max.
A	4.82	5.13	.190	.202
A1	2.54	2.69	.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	μC