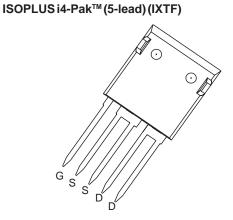
TrenchMV[™] Power MOSFET

IXTF250N075T

(Electrically Isolated Back Surface)

N-Channel Enhancement Mode Avalanche Rated





 $m\Omega$

G = Gate	D = Drain
S = Source	

Symbol	Test Conditions	Maximum R	Maximum Ratings	
V _{DSS} V _{DGR}	$T_J = 25^{\circ}\text{C to } 175^{\circ}\text{C}$ $T_J = 25^{\circ}\text{C to } 175^{\circ}\text{C}; R_{GS} = 1 \text{ M}\Omega$	75 75	V	
V _{GSM}	Transient	± 20	V	
 _{D25} _L	T _c = 25°C Package Current Limit, RMS (75 A per lead	140) 150	A A	
I _{DM}	$T_{\rm C}$ = 25°C, pulse width limited by $T_{\rm JM}$	560	A	
I _{AR} E _{AS}	$T_{c} = 25^{\circ}C$ $T_{c} = 25^{\circ}C$	40 1.5	A J	
dv/dt	$I_{S} \leq I_{DM}$, di/dt \leq 100 A/ms, $V_{DD} \leq V_{DSS}$ $T_{J} \leq$ 175°C, $R_{G} = 3.3 \text{ W}$	3	V/ns	
P _D	T _c = 25°C	200	W	
T _J T _{JM} T _{stg}		-55 +175 175 -55 +175	°C °C °C	
T _L T _{SOLD}	1.6 mm (0.062 in.) from case for 10 s Plastic body for 10 seconds	300 260	°C	
V _{ISOL}	50/60 Hz, t = 1 minute, I _{ISOL} < 1 mA, RMS 250	0 V		
F _c	Mounting force 20)120/4.525	N/lb.	
Weight		6	g	

Features

- Ultra-low On Resistance
- Unclamped Inductive Switching (UIS) rated
- Low package inductance
- easy to drive and to protect
- 175°X Οπερατινγ Τεμπερατυρε

Advantages

- Easy to mount
- Space savings
- High power density

Applications

- Automotive
 - Motor Drives
 - 42V Power Bus
 - ABS Systems
- DC/DC Converters and Off-line UPS
- Primary Switch for 24V and 48V Systems
- High Current Switching Applications

Symbol	Test Conditions	Characteristic Values			es	
$(T_J = 25^{\circ}C \text{ unless otherwise specified})$			Min.	Тур.	Max.	
BV _{DSS}	$V_{GS} = 0 \text{ V}, I_D = 250 \mu\text{A}$		75			V
V _{GS(th)}	$V_{_{DS}} = V_{_{GS}}, I_{_{D}} = 250 \mu\text{A}$		2.0		4.0	V
I _{GSS}	$V_{GS} = \pm 20 \text{ V}, V_{DS} = 0 \text{ V}$				± 200	nA
I _{DSS}	$V_{DS} = V_{DSS}$ $V_{GS} = 0 V$	T _J = 150°C			5 250	μΑ μΑ
R _{DS(on)}	$V_{GS} = 10 \text{ V}, I_{D} = 50 \text{ A}, \text{ Note:}$	s 1, 2			4.41	mΩ



Symbol	Test Conditions	Characteristic Values (T _J = 25°C unless otherwise specified) Min. Typ. Max.		
g _{fs}	V _{DS} = 10 V; I _D = 60 A, Note 1	75	122	S
C _{iss}			9900	pF
C _{oss}	$V_{GS} = 0 \text{ V}, V_{DS} = 25 \text{ V}, f = 1 \text{ MH}$	z	1330	pF
\mathbf{C}_{rss}			285	pF
t _{d(on)}			32	ns
t,	$V_{GS} = 10 \text{ V}, V_{DS} = 0.5 \text{ V}_{DSS}, I_{D} =$	50 A	50	ns
t _{d(off)}	$R_G = 3.3 \text{ W (External)}$		58	ns
t _f			45	ns
Q _{g(on)}			200	nC
\mathbf{Q}_{gs}	$V_{GS} = 10 \text{ V}, V_{DS} = 0.5 \text{ V}_{DSS}, I_{D} =$	25 A	50	nC
\mathbf{Q}_{gd}			60	nC
R _{thJC}				0.75 °C/W
R _{thCH}			0.15	°C/W

Source-Drain Diode

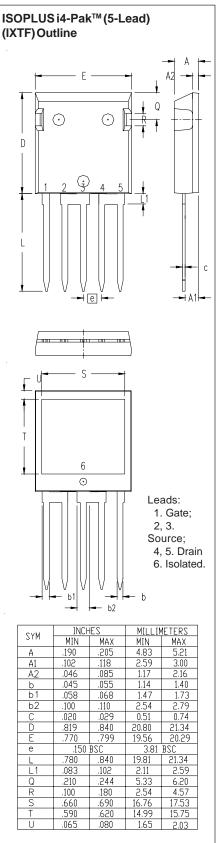
Characteristic Values T₁ = 25°C unless otherwise specified)

Symbol	Test Conditions J	Min.	Тур.	Max.	
Is	$V_{GS} = 0 V$			150	Α
SM	Pulse width limited by $T_{_{JM}}$			560	Α
V _{SD}	$I_F = 50 \text{ A}, V_{GS} = 0 \text{ V}, \text{ Note 1}$			1.0	V
t _{rr}	$I_F = 25 \text{ A}, -di/dt = 100 \text{ A}/\mu\text{s}$		50		ns
	$V_R = 25 \text{ V}, V_{GS} = 0 \text{ V}$				

- Notes: 1. Pulse test: $t \le 300 \,\mu s$, duty cycled $\le 2 \,\%$;
 - 2. Drain and Source Kelvin contacts must be located less than 5 mm from the plastic body.

ADVANCE TECHNICAL INFORMATION

The product presented herein is under development. The Technical Specifications offered are derived from a subjective evaluation of the design, based upon prior knowledge and experience, and constitute a "considered reflection" of the anticipated result. IXYS reserves the right to change limits, test conditions, and dimensions without notice.



All leads and tab are tin plated.

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