Chipsmall Limited consists of a professional team with an average of over 10 year of expertise in the distribution of electronic components. Based in Hongkong, we have already established firm and mutual-benefit business relationships with customers from,Europe,America and south Asia,supplying obsolete and hard-to-find components to meet their specific needs.

With the principle of “Quality Parts,Customers Priority,Honest Operation,and Considerate Service”,our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip,ALPS,ROHM,Xilinx,Pulse,ON,Everlight and Freescale. Main products comprise IC,Modules,Potentiometer,IC Socket,Relay,Connector.Our parts cover such applications as commercial,industrial, and automotives areas.

We are looking forward to setting up business relationship with you and hope to provide you with the best service and solution. Let us make a better world for our industry!

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IXYS

Advance Technical Information

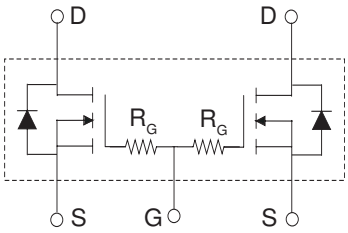
TrenchMV™ Power MOSFETs Common-Gate Pair

(Electrically Isolated Back Surface)

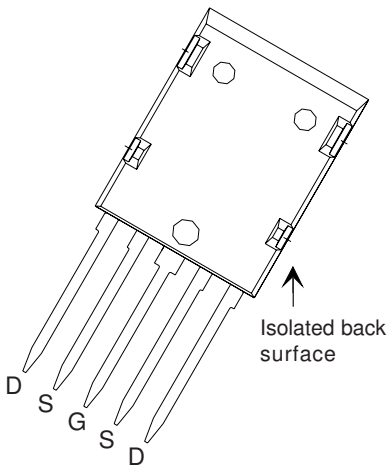
N-Channel Enhancement Mode
Avalanche Rated

IXTL2x240N055T

V_{DSS} = 55 V
I_{D25} = 2x140 A
$R_{DS(on)}$ ≤ 4.4 mΩ



ISOPLUS i5-Pak™ (IXTL)



G = Gate D = Drain
S = Source

Symbol	Test Conditions	Maximum Ratings	
V_{DSS}	T_J = 25°C to 175°C	55	V
V_{DGR}	T_J = 25°C to 175°C; R_{GS} = 1 MΩ	55	V
V_{GSM}	Transient	± 20	V
I_{D25}	T_C = 25°C (Combined die total = 280 A)	140	A
I_{LRMS}	Package Current Limit, RMS (Combined die total = 150 A)	75	A
I_{DM}	T_C = 25°C, pulse width limited by T_{JM}	650	A
I_{AS}	T_C = 25°C	25	A
E_{AS}	T_C = 25°C	1.0	J
dv/dt	$I_S \le I_{DM}$, di/dt ≤ 100 A/μs, $V_{DD} \le V_{DSS}$ $T_J \le 175°C$, R_G = 3.3 Ω	3	V/ns
P_D	T_C = 25°C	150	W
T_J		-55 ... +175	°C
T_{JM}		175	°C
T_{stg}		-55 ... +175	°C
T_L	1.6 mm (0.062 in.) from case for 10 s	300	°C
	Plastic body for 10 seconds	260	°C
V_{ISOL}	50/60 Hz, t = 1 minute, I_{ISOL} < 1 mA, RMS	2500	V
F_C	Mounting force	30..170 / 7..36	N/lb.
Weight	Package	9	g

Symbol	Test Conditions (T_J = 25°C unless otherwise specified)	Characteristic Values Min.	Typ.	Max.	
BV_{DSS}	V_{GS} = 0 V, I_D = 250 μA	55			V
$V_{GS(th)}$	$V_{DS} = V_{GS}$, I_D = 250 μA	2.0		4.0	V
I_{GSS}	V_{GS} = ± 20 V, V_{DS} = 0 V			± 200	nA
I_{DSS}	$V_{DS} = V_{DSS}$ V_{GS} = 0 V T_J = 150°C			5 250	μA μA
$R_{DS(on)}$	V_{GS} = 10 V, I_D = 50 A, Note 1, 2			4.4	mΩ

Features

- Ultra-low On Resistance
- Unclamped Inductive Switching (UIS) rated
- Low package inductance
  - easy to drive and to protect
- 175 °C Operating Temperature

Advantages

- Easy to mount
- Space savings
- High power density

Applications

- Automotive
  - Motor Drives
  - High Side Switch
  - 12V Battery
  - ABS Systems
- DC/DC Converters and Off-line UPS
- Primary- Side Switch
- High Current Switching Applications

All ratings and parametric values are per each MOSFET die unless otherwise specified.

DS99721 (01/07)

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	80	132		S
R_G			3		Ω
C_{iss}			7600		pF
C_{oss}	V_{GS} = 0 V, V_{DS} = 25 V, f = 1 MHz		1240		pF
C_{rss}			260		pF
$t_{d(on)}$			40		ns
t_r	V_{GS} = 10 V, V_{DS} = 0.5 V_{DSS}, I_D = 25A		54		ns
$t_{d(off)}$	R_G = 5 Ω (External)		63		ns
t_f			75		ns
$Q_{g(on)}$			170		nC
Q_{gs}	V_{GS}= 10 V, V_{DS} = 0.5 V_{DSS}, I_D = 25A		32		nC
Q_{gd}			48		nC
R_{thJC}				1.0	°C/W
R_{thCS}			0.25		°C/W

Source-Drain Diode

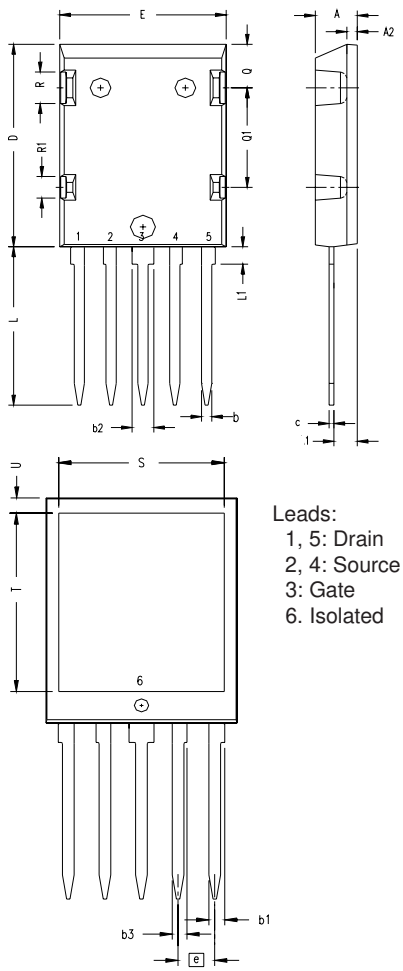
Symbol	Test Conditions	Characteristic Values (T_J = 25°C unless otherwise specified) Min.	Typ.	Max.	
I_S	V_{GS} = 0 V			240	A
I_{SM}	Pulse width limited by T_{JM}			650	A
V_{SD}	I_F = 50 A, V_{GS} = 0 V, Note 1			1.0	V
t_{rr}	I_F = 25 A, -di/dt = 100 A/µs V_R = 30 V, V_{GS} = 0 V		40		ns

Notes: 1. Pulse test, t ≤ 300 µs, duty cycle d ≤ 2 %;
2. Drain and source Kelvin contact 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.

ISOPLUS i5-Pak™ (IXTL) Outline



Leads:
1, 5: Drain
2, 4: Source
3: Gate
6. Isolated

SYM	INCHES MIN	INCHES MAX	MILLIMETERS MIN	MILLIMETERS MAX
A	.190	.205	4.83	5.21
A1	.102	.118	2.59	3.00
A2	.046	.055	1.17	1.40
b	.045	.055	1.14	1.40
b1	.063	.072	1.60	1.83
b2	.100	.110	2.54	2.79
b3	.058	.068	1.47	1.73
c	.020	.029	0.51	0.74
D	1.020	1.040	25.91	26.42
E	.770	.799	19.56	20.29
e	.150 BSC		3.81 BSC	
L	.780	.820	19.81	20.83
L1	.080	.102	2.03	2.59
Q	.210	.235	5.33	5.97
Q1	.490	.513	12.45	13.03
R	.150	.180	3.81	4.57
R1	.100	.130	2.54	3.30
S	.668	.690	16.97	17.53
T	.801	.821	20.34	20.85
U	.065	.080	1.65	2.03

Note:
1. TAB 6 - Electrically isolated from the other pins.
2. All leads and tab are tin plated.