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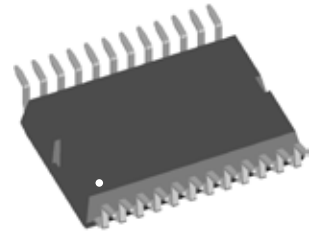
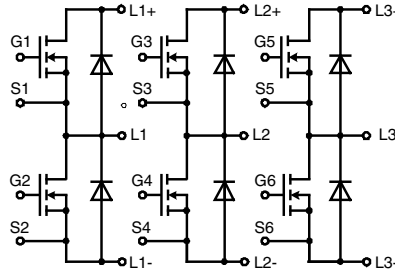
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[IXYS Corporation](#)
[GMM3X120-0075X2-SMDSAM](#)

For any questions, you can email us directly:
sales@integrated-circuit.com

Three phase full Bridge
 with Trench MOSFETs
 in DCB isolated high current package

$V_{DSS} = 75\text{ V}$
 $I_{D25} = 110\text{ A}$
 $R_{DSon\ typ.} = 4.0\text{ m}\Omega$



MOSFETs		Maximum Ratings
Symbol	Conditions	
V_{DSS}	$T_{VJ} = 25^{\circ}\text{C to } 150^{\circ}\text{C}$	75 V
V_{GS}		± 20 V
I_{D25}	$T_C = 25^{\circ}\text{C}$	110 A
I_{D90}	$T_C = 90^{\circ}\text{C}$	85 A
I_{F25}	$T_C = 25^{\circ}\text{C}$ (diode)	110 A
I_{F90}	$T_C = 90^{\circ}\text{C}$ (diode)	80 A

Applications

- AC drives
 - in automobiles
 - electric power steering
 - starter generator
 - in industrial vehicles
 - propulsion drives
 - fork lift drives
- in battery supplied equipment

Symbol	Conditions	Characteristic Values			
		min.	typ.	max.	
$(T_{VJ} = 25^{\circ}\text{C}, \text{ unless otherwise specified})$					
$R_{DSon}^{1)}$	on chip level at $V_{GS} = 10\text{ V}$	$T_{VJ} = 25^{\circ}\text{C}$	4.0	4.9	$\text{m}\Omega$
		$T_{VJ} = 125^{\circ}\text{C}$	7.2	8.4	$\text{m}\Omega$
$V_{GS(th)}$	$V_{DS} = 20\text{ V}; I_D = 1\text{ mA}$	2.0	4.0	V	
I_{DSS}	$V_{DS} = V_{DSS}; V_{GS} = 0\text{ V}$	$T_{VJ} = 25^{\circ}\text{C}$		1	μA
		$T_{VJ} = 125^{\circ}\text{C}$	50		μA
I_{GSS}	$V_{GS} = \pm 20\text{ V}; V_{DS} = 0\text{ V}$			0.2	μA
Q_g	$V_{GS} = 10\text{ V}; V_{DS} = 36\text{ V}; I_D = 25\text{ A}$		115		nC
Q_{gs}			30		nC
Q_{gd}			30		nC
$t_{d(on)}$	inductive load $V_{GS} = 10\text{ V}; V_{DS} = 30\text{ V}$ $I_D = 80\text{ A}; R_G = 39\ \Omega;$ $T_J = 125^{\circ}\text{C}$		130		ns
t_r			100		ns
$t_{d(off)}$			500		ns
t_f			100		ns
E_{on}			0.20		mJ
E_{off}			0.50		mJ
E_{recoff}		0.01		mJ	
R_{thJC}	with heat transfer paste (IXYS test setup)		1.0		K/W
R_{thJH}		1.3	1.6	K/W	

Features

- MOSFETs in trench technology:
 - low R_{DSon}
 - optimized intrinsic reverse diode
- package:
 - high level of integration
 - high current capability
 - aux. terminals for MOSFET control
 - terminals for soldering or welding connections
 - isolated DCB ceramic base plate with optimized heat transfer
- Space and weight savings

¹⁾ $V_{DS} = I_D \cdot (R_{DS(on)} + 2R_{Pin\ to\ chip})$

Recommended replacement: MTI90WX75GD

Source-Drain Diode

Symbol	Conditions	Characteristic Values		
		min.	typ.	max.
(T _J = 25°C, unless otherwise specified)				
V _{SD}	(diode) I _F = 80 A; V _{GS} = 0 V	0.9	1.2	V
t _{rr}	I _F = 80 A; -di _F /dt = 800 A/μs; V _R = 30 V		55	ns
Q _{RM}			0.9	μC
I _{RM}			30	A

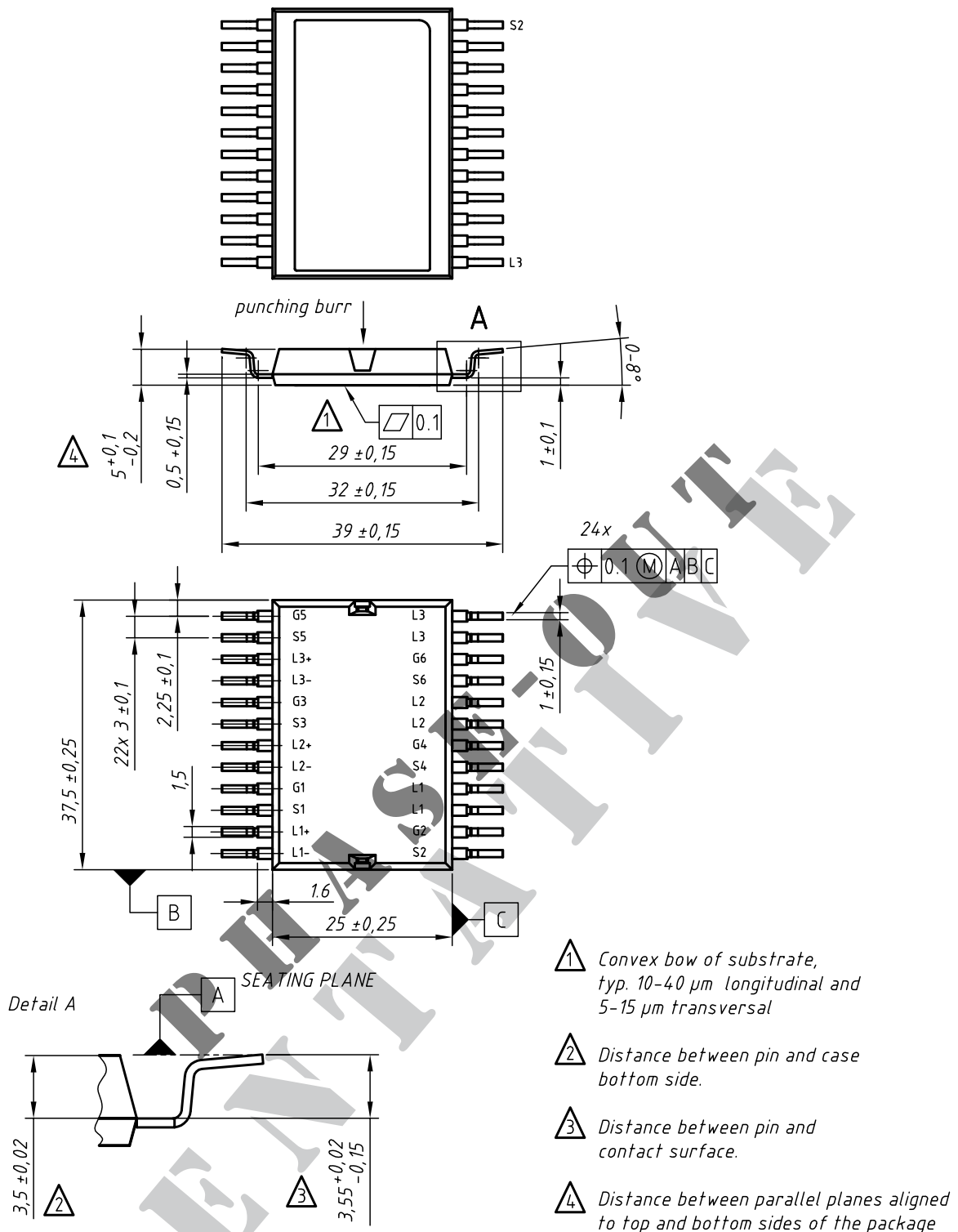
Component

Symbol	Conditions	Maximum Ratings	
I _{RMS}	per pin in main current paths (P+, N-, L1, L2, L3) may be additionally limited by external connections 2 pins for output L1, L2, L3	75	A
T _J		-55...+175	°C
T _{stg}		-55...+125	°C
V _{ISOL}	I _{ISOL} ≤ 1 mA, 50/60 Hz, f = 1 minute	1000	V~
F _C	mounting force with clip	50 - 250	N

Symbol	Conditions	Characteristic Values		
		min.	typ.	max.
R _{pin to chip} ¹⁾			tbd	mΩ
C _P	coupling capacity between shorted pins and back side metallization		160	pF
Weight			25	g

¹⁾ V_{DS} = I_D · (R_{DS(on)} + 2R_{Pin to Chip})

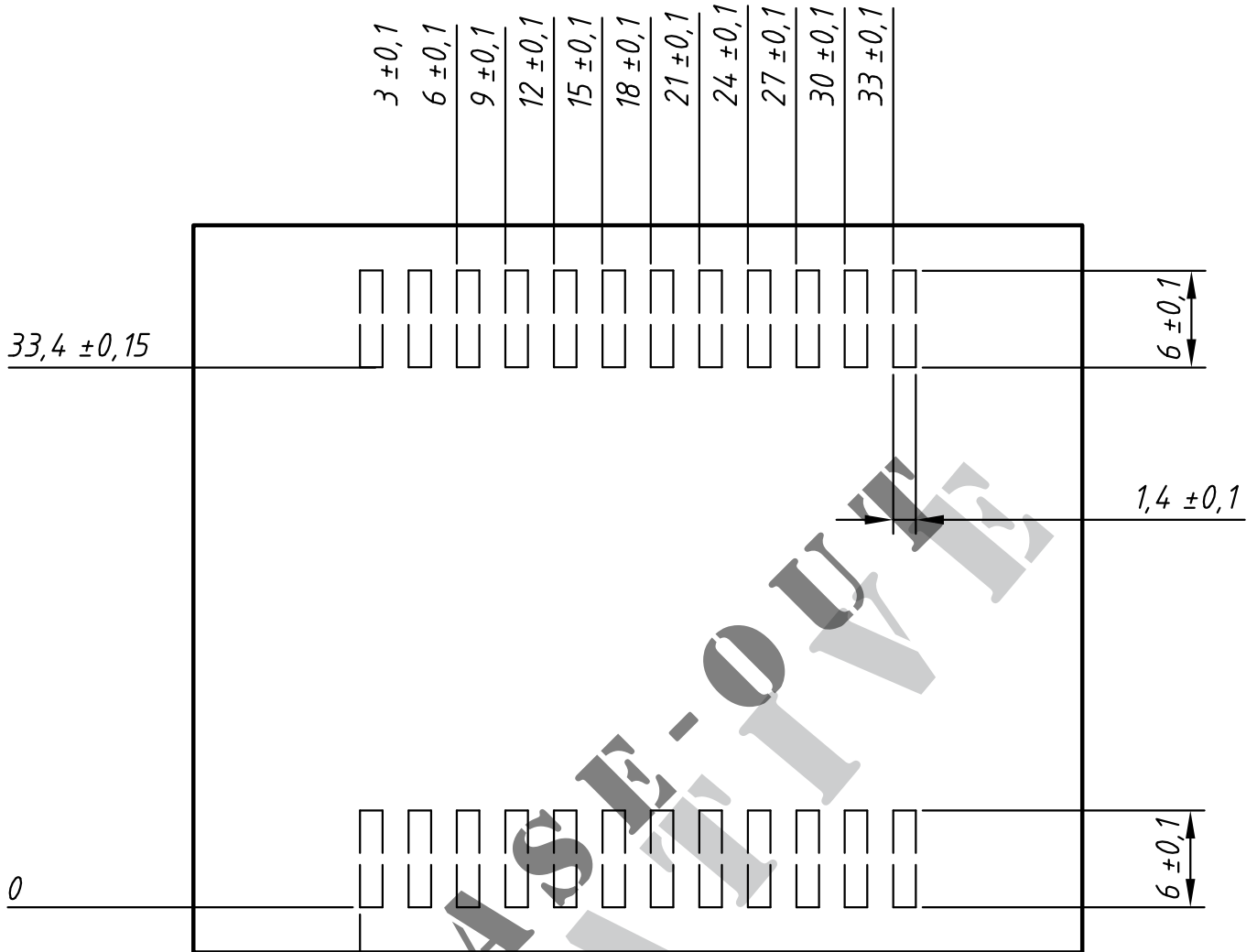
IXYS **GMM 3x120-0075X2**



contact pin:
 - galv. tin plating, per pin side: Sn 10...25 μm, undercoating Ni 0,2...1 μm
 - stamping edges may be free of tin
 - punching burr: ≤ 0,05mm

Leads	Ordering	Part Name & Packing Unit Marking	Part Marking	Delivering Mode	Base Qty.	Ordering Code
SMD	Standard	GMM 3x120-0075X2 - SMD	GMM 3x120-0075X2	Blister	28	507 508

IXYS **GMM 3x120-0075X2**



Remarks:

- 1) pin layout / dimensions are conditionally
- 2) soldering paste thickness: 200µm