

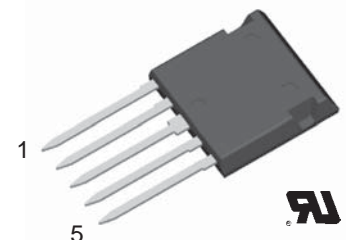
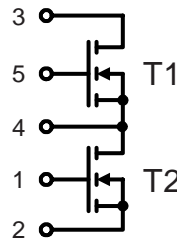
## Trench Power MOSFET

-Phaseleg Topology-  
in ISOPLUS i4-PAC™  
with DAB Base

$$I_{D25} = 200 \text{ A}$$

$$V_{DSS} = 75 \text{ V}$$

$$R_{DSon} = 3.5 \text{ m}\Omega$$



### MOSFET T1/T2

Symbol	Conditions	Maximum Ratings	
$V_{DSS}$	$T_{VJ} = 25^\circ\text{C}$ to $T_{VJmax}$	75	V
$V_{GS}$		$\pm 20$	V
$I_{D25}$	$T_C = 25^\circ\text{C}$	200	A
$I_{D90}$	$T_C = 90^\circ\text{C}$	160	A
$I_{F25}$	(diode) $T_C = 25^\circ\text{C}$	185	A
$I_{F90}$	(diode) $T_C = 90^\circ\text{C}$	125	A

### Features

- trench MOSFET
  - very low on state resistance  $R_{DSon}$
  - fast body diode
- DAB based ISOPLUS i4-PAC™ package
  - isolated back surface
  - low coupling capacity between pins and heatsink
  - enlarged creepage towards heatsink
  - application friendly pinout
  - low inductive current path
  - extremely high reliability
  - light weight
  - industry standard outline
  - UL registered E 72873

### Applications

- automobiles and industrial vehicles
  - AC drives - starter generator for 42V etc.
  - choppers - replacing series resistors for DC drives, heating etc.
  - DC-DC converters - between 12V and 42V system etc.
  - electronic switches - replacing relays and fuses
- power supplies
  - DC-DC converters
  - solar inverters
  - converters for fuel cells
- battery supplied systems
  - choppers or inverters for drives in hand held tools
  - battery chargers

Symbol	Conditions	Characteristic Values ( $T_{VJ} = 25^\circ\text{C}$ , unless otherwise specified)		
		min.	typ.	max.
$R_{DSon}$	$V_{GS} = 10 \text{ V}; I_D = 100 \text{ A}$		3.5	4.5 m $\Omega$
$V_{GSth}$	$V_{DS} = 20 \text{ V}; I_D = 1 \text{ mA};$	2		4 V
$I_{DSS}$	$V_{DS} = 75 \text{ V}; V_{GS} = 0 \text{ V}; T_{VJ} = 25^\circ\text{C}$ $T_{VJ} = 125^\circ\text{C}$		0.1	1 $\mu\text{A}$ mA
$I_{GSS}$	$V_{GS} = \pm 20 \text{ V}; V_{DS} = 0 \text{ V}$			200 nA
$Q_g$ $Q_{gs}$ $Q_{gd}$	} $V_{GS} = 10 \text{ V}; V_{DS} = 60 \text{ V}; I_D = 25 \text{ A}$		220	nC
			50	nC
			75	nC
$t_{d(on)}$ $t_r$ $t_{d(off)}$ $t_f$	} $V_{GS} = 10 \text{ V}; V_{DS} = 30 \text{ V};$ $I_D = 25 \text{ A}; R_G = 10 \Omega$		670	ns
			1020	ns
			1620	ns
			1170	ns
$V_F$	(diode) $I_F = 150 \text{ A}; V_{GS} = 0 \text{ V}$		1.1	1.6 V
$t_{rr}$	(diode) $I_F = 20 \text{ A}; -di/dt = 100 \text{ A}/\mu\text{s}; V_{DS} = 30 \text{ V}$		120	ns
$R_{thJC}$ $R_{thJS}$			tbd	0.55 K/W K/W

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

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**Component**

Symbol	Conditions	Maximum Ratings	
$I_{RMS}$	per pin	75	A
$T_{VJ}$		-55...+175	°C
$T_{stg}$		-55...+125	°C
$V_{ISOL}$	$I_{ISOL} \leq 1 \text{ mA}; 50/60 \text{ Hz}$	2500	V~
$F_c$	mounting force with clip	20...120	N

Symbol	Conditions	Characteristic Values		
		min.	typ.	max.
$C_p$	coupling capacity between shorted pins and mounting tab in the case		40	pF
$d_s, d_A$	pin - pin	1.7		mm
$d_s, d_A$	pin - backside metal	5.5		mm
<b>Weight</b>			5	g

**Dimensions in mm (1 mm = 0.0394")**
