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!

Contact us

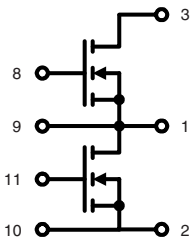
Tel: +86-755-8981 8866 Fax: +86-755-8427 6832
Email & Skype: info@chipsmall.com Web: www.chipsmall.com
Address: A1208, Overseas Decoration Building, #122 Zhenhua RD., Futian, Shenzhen, China

Dual Trench MOSFET Module

Phaseleg Configuration

V_{DSS} = 100 V
I_{D25} = 1000 A
$R_{DS(on)}$ = 0.75 mΩ

Preliminary data



MOSFET T1 + T2

Symbol	Conditions		Maximum Ratings	
V_{DSS}	T_{VJ} = 25°C to 150°C		100	V
V_{GS}			±20	V
I_{D25}	T_C = 25°C	①	1000	A
I_{D80}	T_C = 80°C	①	800	A
I_{F25}	(diode) T_C = 25°C	①	1000	A
I_{F80}	(diode) T_C = 80°C	①	800	A

Symbol	Conditions	Characteristic Values (T_{VJ} = 25°C, unless otherwise specified) min.	typ.	max.	
R_{DSon}	V_{GS} = 10 V; I_D = I_{D80}		0.75	1.2	mΩ
V_{GSth}	V_{DS} = 20 V; I_D = 10 mA	2		4	V
I_{DSS}	V_{DS} = V_{DSS}; V_{GS} = 0 V; T_{VJ} = 25°C			0.15	mA
	T_{VJ} = 125°C		1.5		mA
I_{GSS}	V_{GS} = ±20 V; V_{DS} = 0 V			1.5	µA
Q_g	V_{GS} = 10 V; V_{DS} = 80 V; I_D = 1000 A		2355		nC
Q_{gs}			495		nC
Q_{gd}			1000		nC
$t_{d(on)}$	V_{GS} = 10 V; V_{DS} = 50 V;		50		ns
t_r	I_D = 250 A; R_G = 0.68 Ω		100		ns
$t_{d(off)}$			260		ns
t_f			100		ns
V_F	(diode) I_F = 500 A; V_{GS} = 0 V		1.0	1.5	V
t_{rr}	(diode) I_F = 200 A; -di/dt = 1000 A/µs; V_{DS} = 30 V		100		ns
R_{thJC}				0.06	K/W
R_{thJS}	with heat transfer paste		0.12		K/W

① additional current limitation by external leads

Features

- Trench MOSFETs
  - low R_{DSon}
  - optimized intrinsic reverse diode
- package
  - low inductive current path
  - screw connection to high current main terminals
  - use of non interchangeable connectors for auxiliary terminals possible
  - Kelvin source terminals for easy drive
  - isolated DCB ceramic base plate

Applications

- converters with high power density for
  - main and auxiliary AC drives of electric vehicles
  - 4 quadrant DC drives
  - power supplies with low input voltage, e.g. from fuel cells or solar cells

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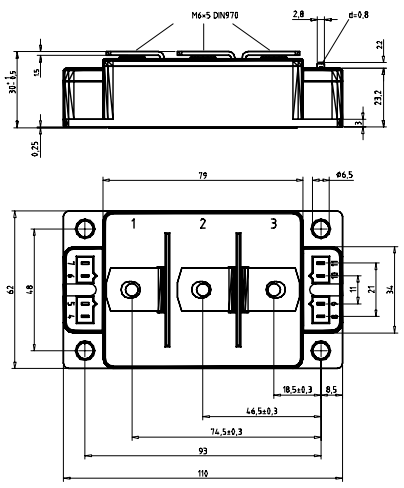
Module

Symbol	Conditions	Maximum Ratings	
I_{RMS}	per main terminal	500	A
T_{VJ}		-40...+175	°C
T_{stg}		-40...+125	°C
V_{ISOL}	$I_{ISOL} \leq 1$ mA; 50/60 Hz	3600	V~
M_d	Mounting torque (M6)	2.25 - 2.75	Nm
	Terminal connection torque (M6)	4.5 - 5.5	Nm

Symbol	Conditions	Characteristic Values min.	typ.	max.	
Weight			250		g

Dimensions in mm (1 mm = 0.0394")



Optional accessories for modules

keyed twin plugs
(UL758, style 1385, CSA class 5851, guide 460-1-1)

- Type ZY180L with wire length 350mm
  – for pins 4 (yellow wire) and 5 (red wire)
  – for pins 11 (yellow wire) and 10 (red wire)
- Type ZY180R with wire length 350mm
  – for pins 7 (yellow wire) and 6 (red wire)
  – for pins 8 (yellow wire) and 9 (red wire)

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