DOCUMENT PRELIMINAIRE

RELAIS STATIQUE A MOSFET POUR COURANT CONTINU

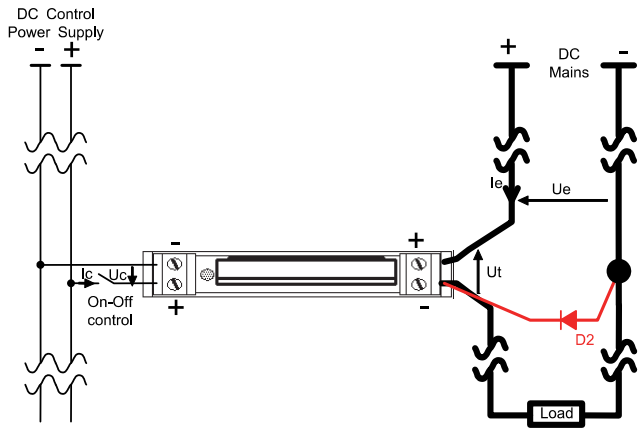
XKLD31006

- **Montage rail DIN**
- **Technologie à base de MOSFET dernière génération.**
- **Très faible résistance à l'état passant.**
- **Protection contre les surtensions intégrée.**
- **Affichage de la commande (LED verte)**
- **Applications :**
  - **Feux routiers**
  - **Petits moteurs, électroaimants, luminaires, éléments chauffants**
  - **Appareils de mesure**
  - **…**

Plage de tension de commande	**10-30VDC**
Tension de sortie permanente max.	**40V (60V crête)**
Courant nominal sans dissipateur	**10ADC**

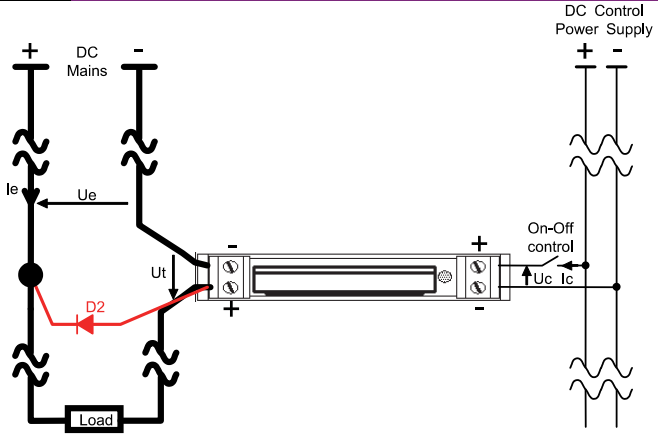
Tensions d'utilisation	Plage de courant de charge	Plage de tension de commande	Isolations	Connexions	Dimensions (LxHxP en mm)	Poids
12-24-36VDC	0 to 10A	10-30VDC	2.5kV	Borniers à vis	12.2 x 76.4 x 53	30g

Fig. 1 HIGH SIDE WIRING DIAGRAM (Load connected to "-")



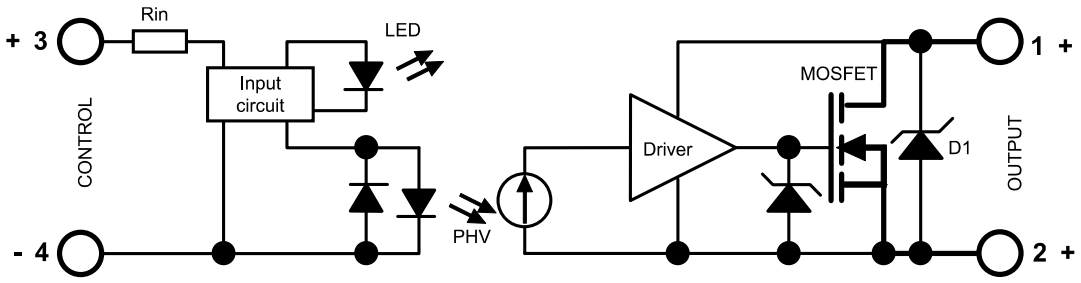
D2 selection : VRRM > Uep, IFav > Ie, trr<1µs
Red paths should be as short as possible!

Fig. 2 LOW SIDE WIRING DIAGRAM (Load connected to "+")



D2 selection : VRRM > Uep, IFav > Ie, trr<1µs
Red paths should be as short as possible!

Fig. 3 INTERNAL DIAGRAM



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CONTROL INPUT CHARACTERISTICS

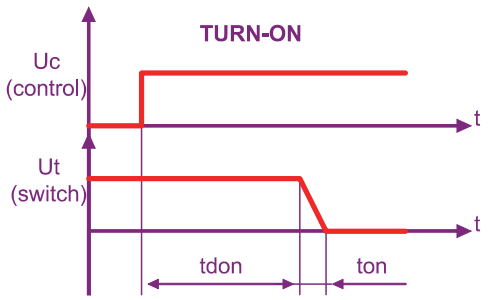
	CHARACTERISTIC	LABEL	VALUE	INFO.
INPUT CIRCUIT	Nominal control voltage	Ucnom	12-24VDC	
	Nominal control current	Icnom	9-20mADC	
	Control voltage range	Uc	10 – 30VDC	
	Current consumption	Ic	7-26mADC	See fig. 5
	Releasing voltage	Ucoffmax	1VDC	
	Max. reverse voltage	-Ucmax	30VDC	
	Input impedance	Rin	1000Ω	See fig. 5

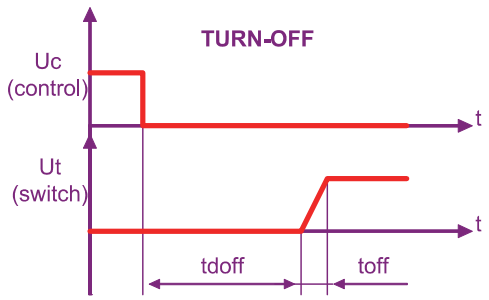
POWER OUTPUT CHARACTERISTICS

	CHARACTERISTIC	LABEL	VALUE	INFO.
POWER CIRCUIT	Mains Nominal voltage	Uenom	**12-24-36VDC**	
	Mains voltage range	Ue	**10-40VDC**	
	Non-repetitive peak voltage	Uep	60V	
	Overvoltage protection	D1	Pulse = 600W 1.2/50µs Permanent = 0.5W	
	Reverse voltage drop (internal diode)	-Ue	0.82VDC	@Ie=10A @Uc=0
	Maximum nominal currents	Ie	**10A**	See fig. 7 for limits
	Non-repetitive peak overload current	Iepeak	100A @10ms	See fig. 8
	Min. load current	Iemin	0.1mA	
	Max. leakage current	Ielk	0.1mADC	@Uep @Tjmax
	Max. on-state resistance	RDSon	14mΩ @Tj=25°C / 22.4mΩ @Tj=125°C	@Iemax
	Typ. output capacitance	Cout	360pF	@1MHz @VDS=25V @Uc=0
	Junction/case thermal resistance per power element	Rthjc	1K/W	Total = 1 power elements
	Relay/ambient thermal resistance vertically mounted	Rthra	22K/W	@ΔTra=60°C
	Relay thermal time constant	Tthra	2min	@ΔTra=60°C
	Control inputs/power outputs insulation voltage	Uimp	2.5kV	
	Inputs/case insulation voltage	Uimp	2.5kV	
	Outputs/case insulation voltage	Uimp	2.5kV	
	Isolation resistance	Rio	1GΩ	
	Isolation capacitance	Cio	<8pF	
	Maximum junction temperature	Tjmax	175°C	
	Storage ambient temperature	Tstg	-40->+100°C	
	Operating ambient temperature	Tamb	**-25->+90°C**	See fig. 7
	Max. case temperature	Tc	**100°C**	

TIME CHARACTERISTICS

Fig. 4 — TIME DIAGRAMS





TIME CHARACT.	CHARACTERISTIC	LABEL	VALUE	INFO.
	Turn on time	**ton**	1µs	
	Turn on delay	**tdon**	10µs	
	Turn off time	**toff**	10µs	
	Turn off delay	**tdoff**	150µs	
	Max. On-Off frequency	**F(on-off)**	1 to 700Hz depending on the circuit configuration : please consult us	

GENERAL INFORMATION

MISC.				
	Display LED (control)		Green	
	Housing		UL94V0	
	Mounting		DIN RAIL	
	Noise level		No audible noise	
	Weight		30g	

STANDARDS

GENERAL				
	Standards		IEC60947-1	
	Protection level		IP00	
	Protection against direct touch		None	
	CE marking		Yes	
	UL, cULUS and VDE approvals		Pending	

E.M.C. IMMUNITY	TYPE OF TEST	STANDARD	LEVEL	EFFECT
	E.S.D. (Electrostatic discharges)	**EN61000-4-2**	Pending	?
	Radiated electromagnetic fields	**EN61000-4-3**	Pending	?
	Fast transients bursts	**EN61000-4-4**	Pending	No effect
	Electric chocks	**EN61000-4-5**	Pending	?
	Voltage drop	**EN61000-4-11**	-	

E.M.C. EMISSION				
	Radiated and conducted disturbances	**NFEN55011**	Pending	

CHARACTERISTIC CURVES

Fig. 5 INPUT CHARACTERISTIC

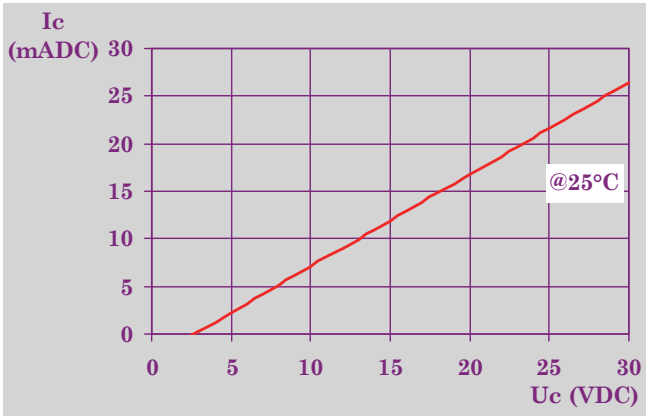


Fig. 6 ON-STATE VOLTAGE DROP VS TEMPERATURE

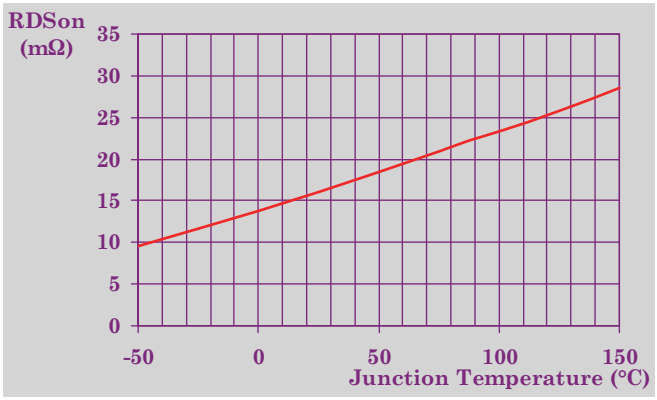


Fig. 7 LOAD CURRENT LIMIT VS TEMPERATURE

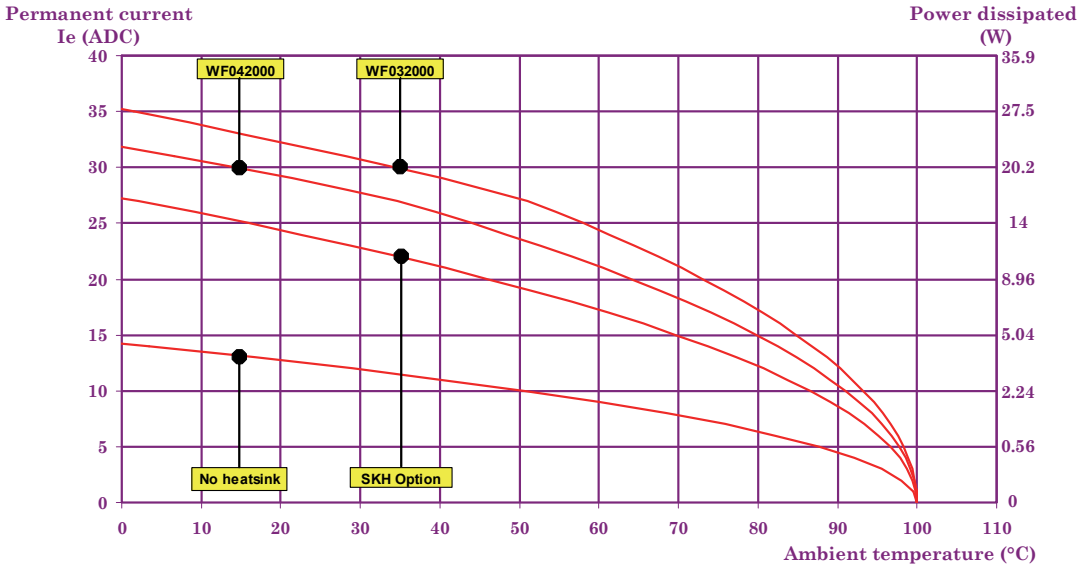


Fig. 8 CURRENT OVERLOAD CHARACTERISTIC (ITSM)

Not available

DIMENSIONS AND ACCESSORIES

Fig. 9 DIMENSIONS

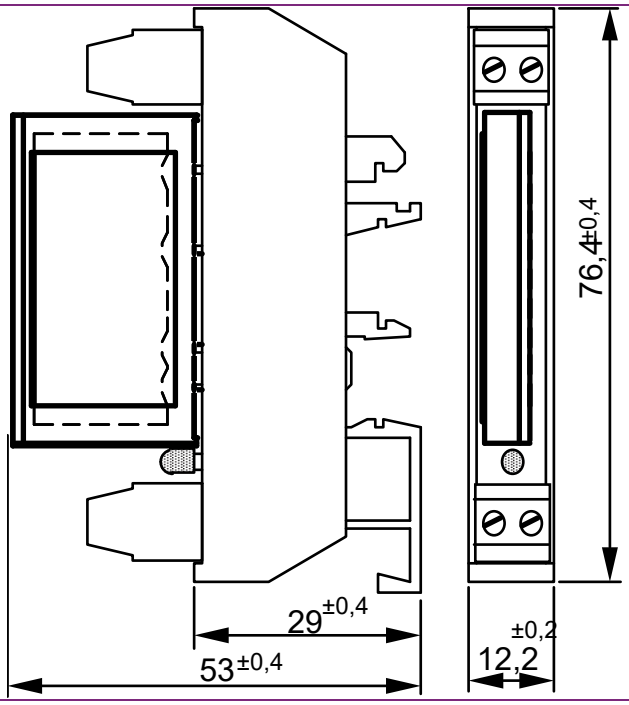


Fig. 10 ACCESSORIES

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