

IGBT BASED DC SOLID-STATE RELAY



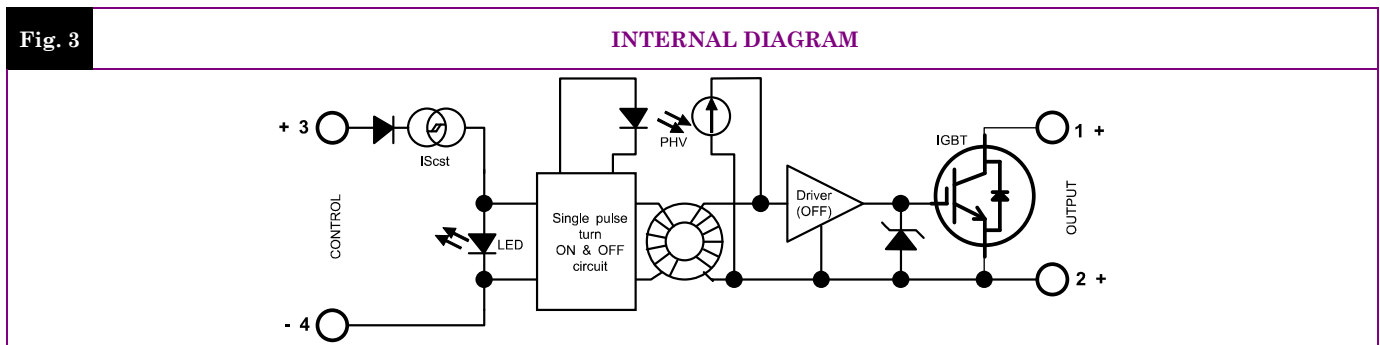
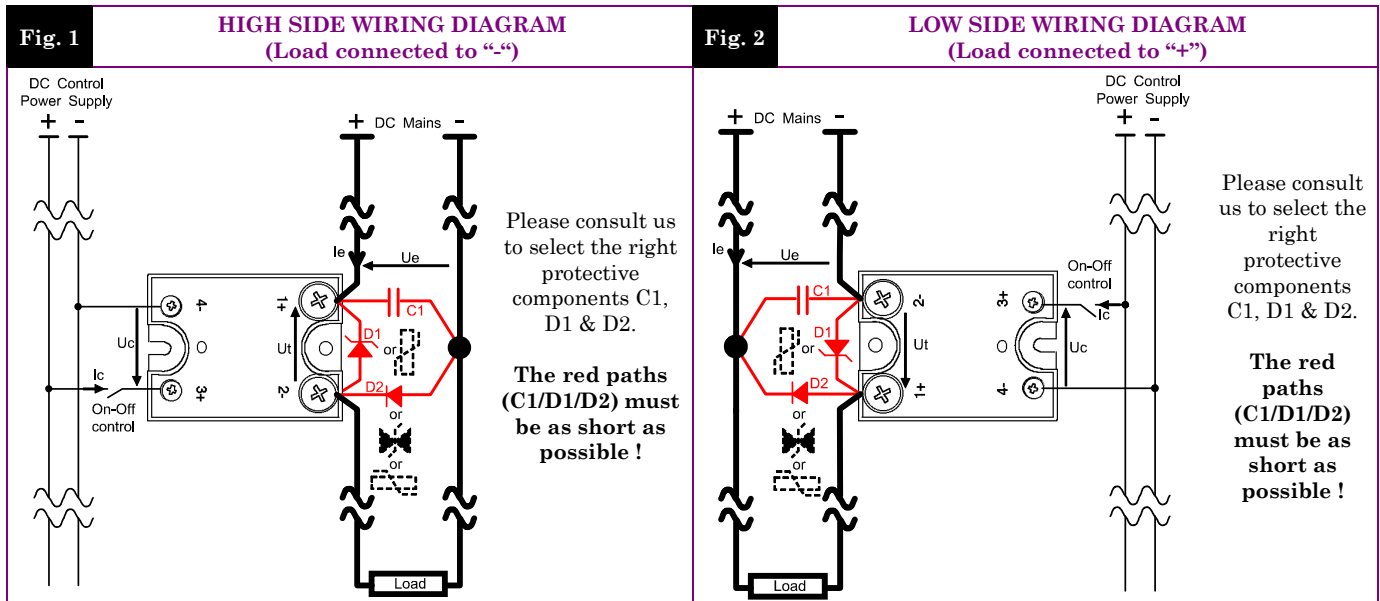
- ▶ Latest high voltage IGBT technology generation.
- ▶ New innovative isolated driver ensuring fast power transistor turn on and off therefore low power transient.
- ▶ Ultra low output leakage current
- ▶ Low control current consumption
- ▶ Triggered control input to avoid linear control risks
- ▶ Low conducted and radiated disturbances

SCI0251700



Control voltage range	4.5-32VDC
Max transient peak voltage	1700v
Advised max. DC Mains peak voltage	820VDC
Max. Load Current (with heatsink)	25ADC

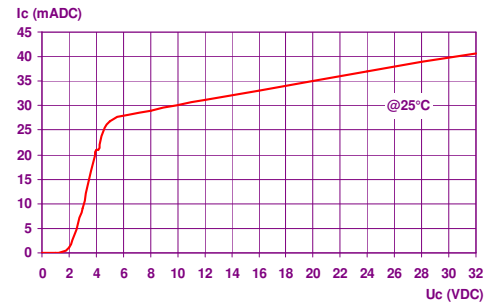
DC Mains voltage range	Load current range	Control input voltage range	In & case / Out Insulation	Connections	Dimensions (WxHxD)	Weight
820VDC Max Advised (Depends on protection clamping voltage)	0 to 25A (with heatsink)	4.5-32VDC	4kV	M3 round tabs M5 round tabs	44.5 x 58.2 x 27 (mm)	100g



Proud to serve you

CONTROL INPUT CHARACTERISTICS

INPUT CIRCUIT	CHARACTERISTIC	LABEL	VALUE	INFO.	Fig. 4 CONTROL CURRENT vs. CONTROL VOLTAGE
	Nom. Control voltage	U_{cnom}	12-24VDC		
	Nom. Control current	I_{cnom}	35mADC		
	Control voltage range	U_c	4.5 – 32VDC	typical=4.3V	
	Control current consumption	I_c	25 – 42mADC	See curve	
	Releasing control voltage	U_{coffmax}	1VDC	Typical= 3.5V	
	Max. reverse control voltage	-U_{cmax}	32VDC	-I _{cmax} <100µA	
	Input impedance	R_{in}	Current limitation	See curve	



TIME CHARACTERISTICS

TIME CHARACT.	CHARACTERISTIC	LABEL	VALUE	Diagram	
	Turn on time	ton	10µs		
	Turn on delay	tdon	600µs		
	Turn off time	toff	50µs		
	Turn off delay	tdoff	100µs		
Max. On-Off frequency	F_(on-off)	200Hz			

POWER OUTPUT CHARACTERISTICS

POWER CIRCUIT	CHARACTERISTIC		LABEL	VALUE	INFO.
	Mains voltage range		U_t U_e	Min = VCEsat Max (Advised) = 820VDC	Depends on protection clamping voltage (D1)
	Non-repetitive peak voltage		U_{tp}	1700V	
	Overvoltage protection		D1	Not integrated A voltage clamping mean must be connected across the terminals 1 & 2 (see fig 1 & 2)	Please consult us to select the right protective components
	Off-state max reverse voltage drop (internal diode)		-U_t	2.09V	@I _e =25A T _j =125°C
	Maximum nominal currents		I_{e max}	Resistive : 25A Motor : Please contact us	See fig. 9
	Max. non-repetitive peak current		I_{epeak}	40A / 1ms	@T _c =25°C
	Min. load current		I_{emin}	5mA	
	Max. leakage current		I_{elk max}	1.5mA	@U _{tp} @T _{jmax}
	Max. on-state voltage		VCEsat	3.76V	@I _e =25A T _j =125°C
	Typ. output capacitance		C_{out}	90pF	@U _{tp}
	Junction/case thermal resistance		R_{thjc}	0.68K/W	
	Built-in heatsink thermal resistance vertically mounted		R_{thra}	10K/W	@ΔT _{ra} =75°C
	Heatsink thermal time constant		T_{thra}	10 minutes	@ΔT _{ra} =60°C
	Control inputs/power outputs insulation voltage		U_{imp}	4kV	
	Inputs/case insulation voltage		U_{imp}	4kV	
	Outputs/case insulation voltage		U_{imp}	4kV	
	Isolation resistance		R_{io}	1GΩ	
	Isolation capacitance		C_{io}	<8pF	
	Maximum junction temperature		T_{jmax}	150°C	
	Storage ambient temperature		T_{stg}	-40->+100°C	
	Operating ambient temperature		T_{amb}	-40->+90°C	See fig. 9
	Max. case temperature		T_c	100°C	

OUTPUT SWITCH CHARACTERISTIC CURVES

Fig. 5 VOLTAGE DROP VS LOAD CURRENT

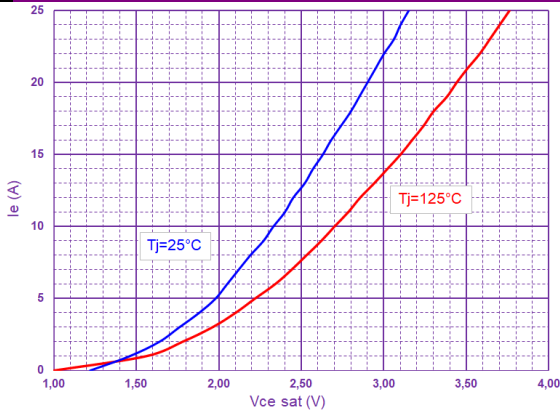


Fig. 6 REVERSE VOLTAGE DROP VS REVERSE CURRENT

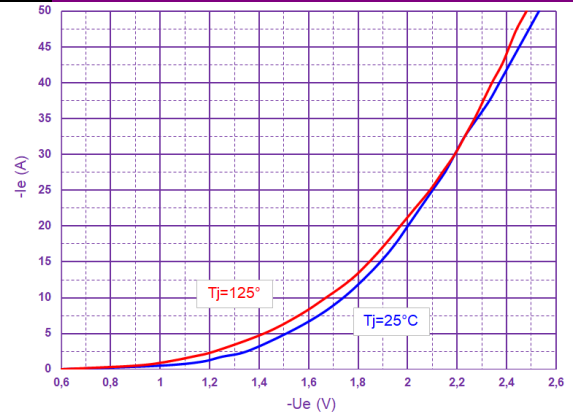


Fig. 7 POWER ELEMENT TRANSIENT THERMAL IMPEDANCE vs. PULSE DURATION

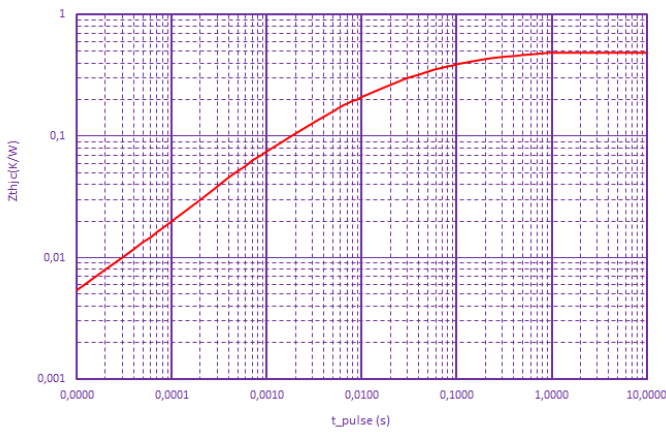


Fig. 8 ON-STATE PEAK OVERLOAD CURRENT vs. PULSE DURATION

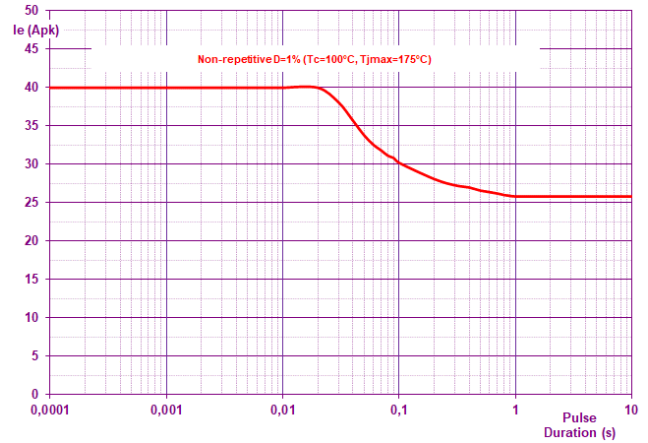
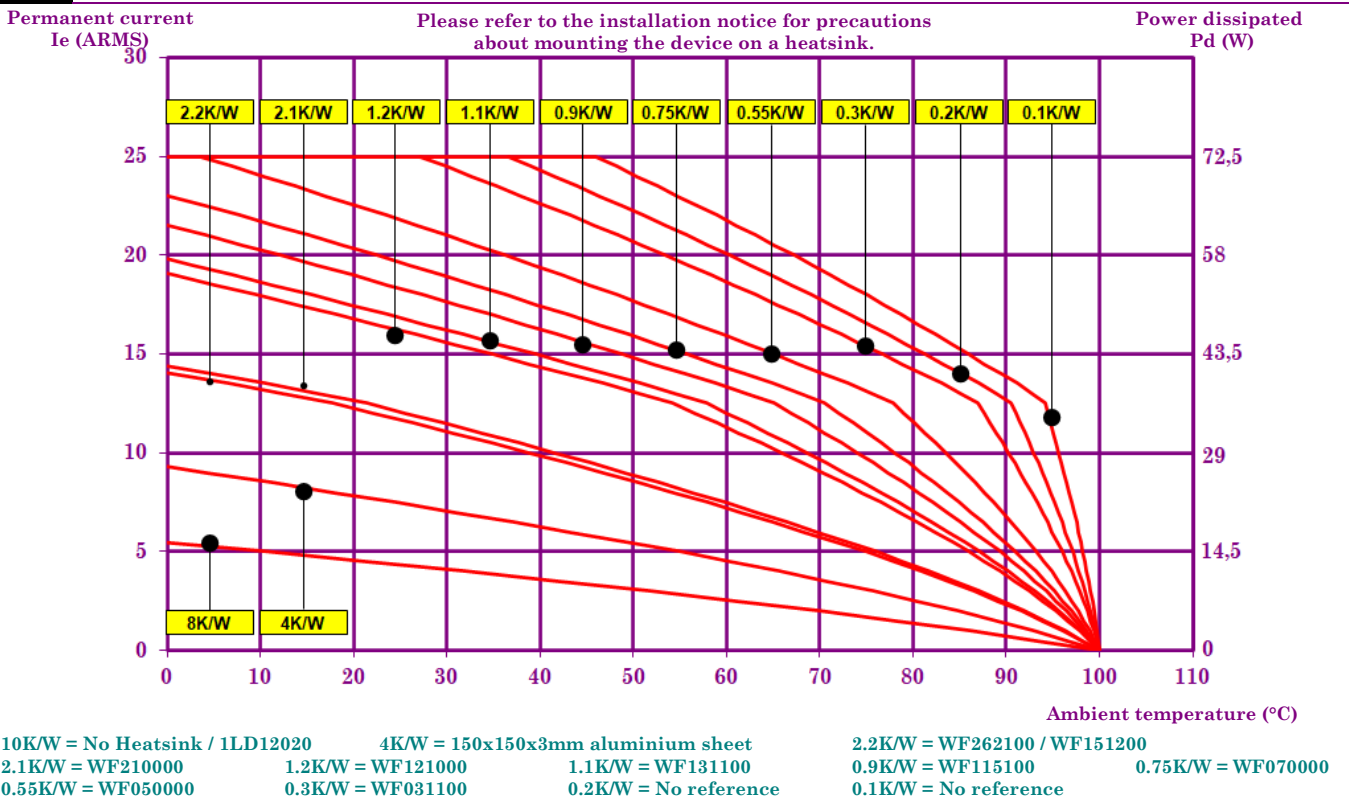


Fig. 9 POWER DISSIPATED AND LOAD CURRENT LIMIT VS TEMPERATURE



GENERAL INFORMATION

CONNECTIONS	Connections	Power	Control
	Screwdriver advised	Philips™ NR2	Philips™ NR1
	Min and max tightening torque	1.8 N.m	0.8 N.m
	Insulated crimp terminals (round tabs, eyelet type)	M5	M3

MISC.	Display	Green LED (indicates relay has switched ON)
	Housing	UL94V0
	Mounting	2 screws (M4x12mm) See mounting sheet
	Noise level	No audible noise
	Weight	100g

STANDARDS

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

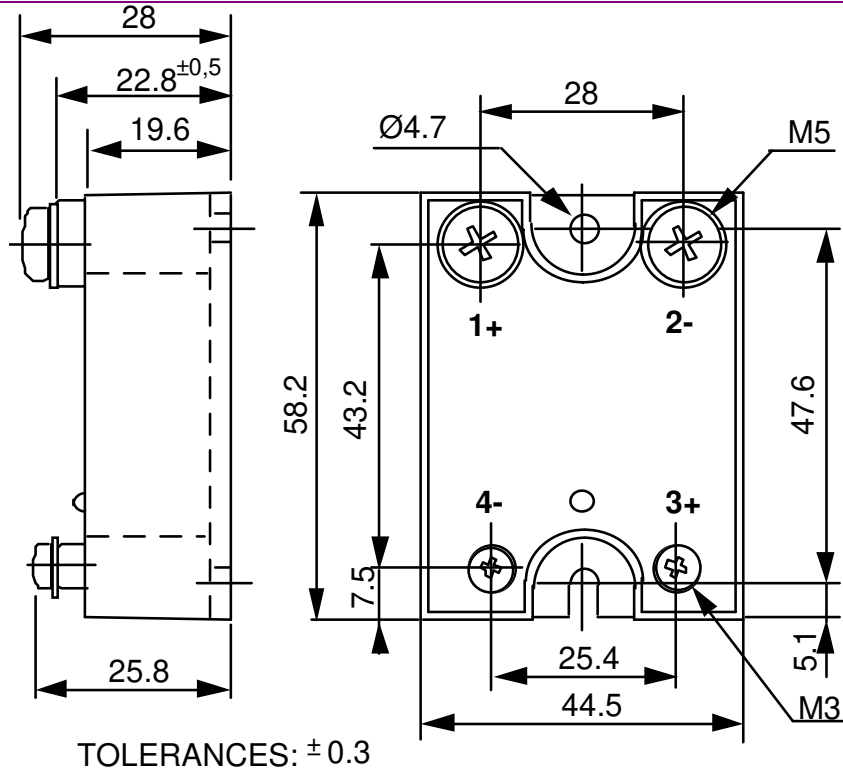
E.M.C. IMMUNITY	TYPE OF TEST	STANDARD	LEVEL	EFFECT
	E.S.D. (Electrostatic discharges)	EN61000-4-2	Pending	?
	Radiated electromagnetic fields	EN61000-4-3	Pending	?
	Fast transients bursts	EN61000-4-4	Pending	No effect
	Electric chocks	EN61000-4-5	Pending	?
	Voltage drop	EN61000-4-11	-	

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

DIMENSIONS AND ACCESSORIES

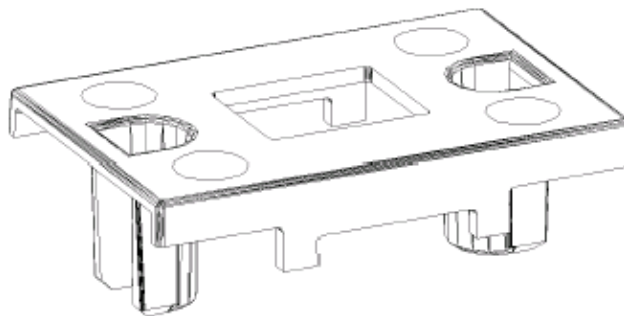
Fig. 10

DIMENSIONS (mm)



ACCESSORIES

PROTECTIVE COVER
1K470000



Please consult our website for other accessory references
(Heatsinks, mounting adaptors, thermal grease...)