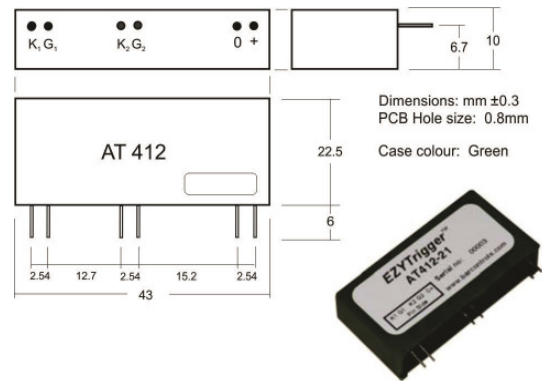
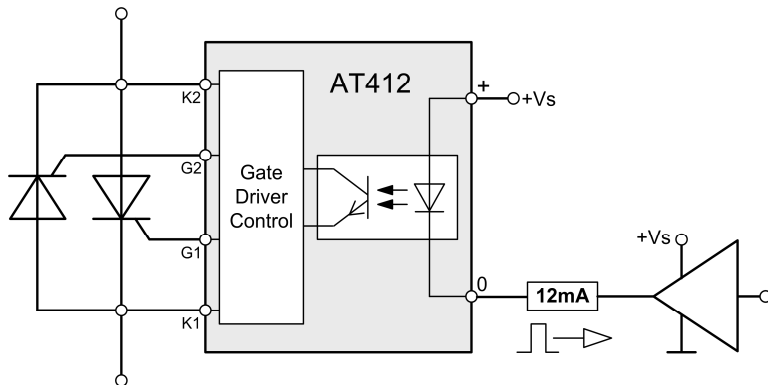


## AT 412

Line voltage 100 – 690V<sub>rms</sub>

### Applications:

- Zero-cross switching applications



### Absolute Maximum Ratings

### EZYTrigger Type

Parameter	Symbol	AT412 - 12	AT412 - 21
Peak voltage – positive and negative	V <sub>p</sub>	1200 V	2100 V
Nominal mains voltage	V <sub>m</sub>	400 V	690 V
Continuous DC voltage	V <sub>=</sub>	400 V	690 V
Turn-on delay for gate current >1A	t <sub>gd</sub>	5 μs	5 μs
Input-Output Isolation	V <sub>i</sub>	6000Vrms 50Hz 1min VDE0884	
Input-Output transient immunity	(dv/dt) <sub>c</sub>	5000 V/μs	
Device transient immunity	(dv/dt) <sub>d</sub>	2000 V/μs	
Ambient temperature range	T <sub>a</sub>	-20°C to +85°C	

### Technical Data at 25°C

200mA gate current threshold	V <sub>gtl</sub>	10 V	16 V
1.8A gate current threshold	V <sub>gth</sub>	24 V	36 V
Gate current rise time ⇒ anode voltage ⇒ 100V	(di/dt) <sub>g</sub>	2.5 A/μs	1.2 A/μs
⇒ 200V	(di/dt) <sub>g</sub>	3 A/μs	2 A/μs
⇒ 400V	(di/dt) <sub>g</sub>	4 A/μs	2.5 A/μs
⇒ 800V	(di/dt) <sub>g</sub>	6 A/μs	3 A/μs
⇒ 1200V	(di/dt) <sub>g</sub>	-	4 A/μs
Peak gate current	I <sub>p</sub>	1.8 A	1.8 A
Anode-cathode current at peak voltage V <sub>p</sub>	I <sub>n</sub>	4.4 mA	5.1 mA
Maximum off-state gate current	I <sub>o</sub>	< 40 μA	< 40 μA
Minimum control current	I <sub>cm</sub>	7 mA	7 mA
Recommended control current	I <sub>c</sub>	12 mA	12 mA
Control input voltage drop at 12mA gate current	V <sub>in</sub>	Typ 1.2 < 1.5V	Typ 1.2 < 1.5V
Maximum reverse control input voltage	V <sub>inr</sub>	6 V	6 V
Turn-on delay time at I <sub>control</sub> = 12mA	t <sub>di</sub>	25 μs	25 μs
Zero-crossing threshold	V <sub>zt</sub>	<20 V	<20 V

All components and parts used in these units have been certified by their manufacturers as RoHS Compliant.

Epoxy filler is RoHS Compliant (2011/65/EU) and UL Approval meets UL94 V-0.

The Optocoupler is approved for UL1577 File No. E52744 System Code H or J, Double Protection and DIN EN 60747-5-2 (VDE0884), RoHS 2002/96/EC and WEEE (2002/96/EC).

No warranty is given for the accuracy of information stated by the respective manufacturers.