

# CHT-EUROPA-A1220

## Datasheet

### High Temperature 1200V/20A

### Dual SiC Schottky Diode Module

Version: 1.2  
14-Dec-23  
(Last Modification Date)

#### General description

CHT-EUROPA-A1220 is a high temperature 1200V/20A Dual Silicon Carbide Schottky diode in a single hermetic module. It is suitable for applications such as DC-DC converters, PFC, or motor drives in high temperature environments. The two independent diodes can be used in parallel to deliver a total of 40A. This product is guaranteed for normal operation on the full range -55°C to +210°C (Tj). Each diode has a breakdown voltage in excess of 1200V. Schottky diode features fast switching, zero reverse recovery current.

#### Benefits

- Support of high-frequency switching (almost no switching losses)
- Reduced Heat Sink requirement
- Extended lifetime and high reliability
- Harsh environments and high temperature power converters

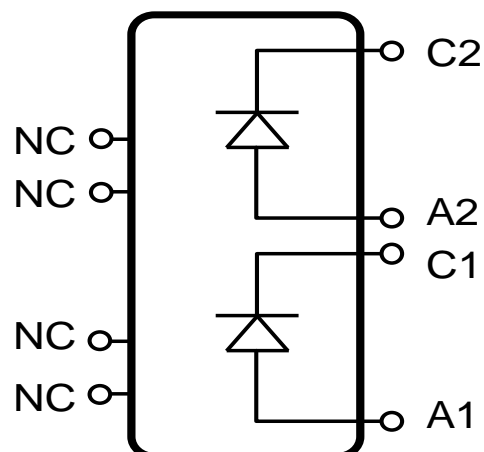
#### Applications

- AC rectification bridge
- Power Factor Correction
- DC motor drives and actuator control
- DC-DC converters

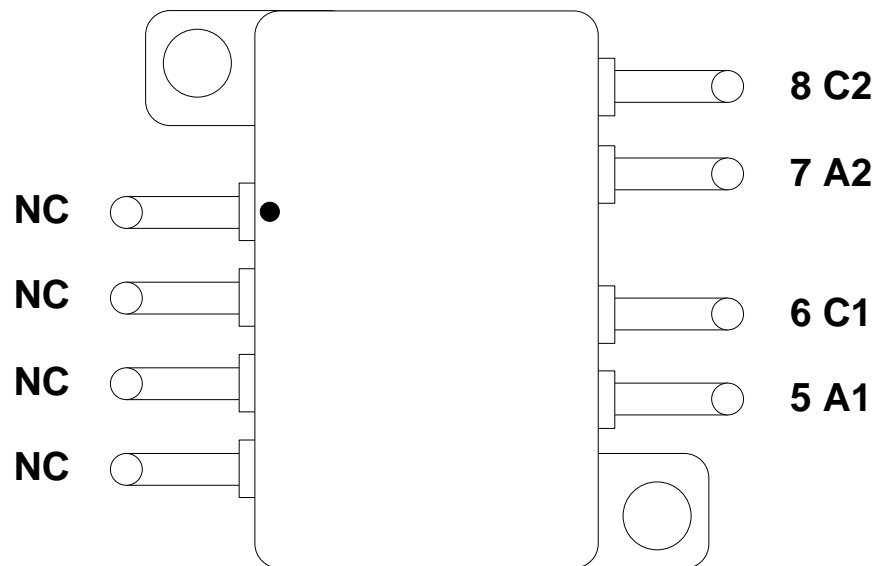
#### Features (per diode)

- Specified from -55 to +210°C (Tj)
- Max Reverse Voltage  $V_R$ : 1200V
- Forward Voltage  $V_{FWD}$ : 1.5V @ 20A
- Max Continuous Current: 20A
- Max Peak Rep Fwd Surge Current: 35A
- Hermetic package with isolated case

#### Functional Block Diagram



## Package configuration and Pin Description



Pin ID	Pin Name	Pin Description	Pin Finish
1	NC	Not connected Pin	Nickel
2	NC	Not connected Pin	Nickel
3	NC	Not connected Pin	Nickel
4	NC	Not connected Pin	Nickel
5	A1	Anode of Diode 1 (Power Pin)	Nickel
6	C1	Cathode of Diode 1 (Power Pin)	Gold
7	A2	Anode of Diode 2 (Power Pin)	Nickel
8	C2	Cathode of Diode 2 (Power Pin)	Gold
	Body	Package body (isolated from Pins)	Nickel

**Abs. Max. Ratings (per diode)**

DC Blocking Voltage	1200V
Continuous Forward Current	20A
Max Junction temperature $T_{jmax}$	210°C
Power dissipation at $T_c=175^\circ\text{C}$ (*)	45W

**Operating Conditions (per diode)**

DC Blocking Voltage	1200V
Continuous Forward Current	20A
Rep. Peak Fwd Surge Current	35A
Junction temperature	-55°C to +210°C

**ESD Rating**

Human Body Model	>2kV
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(\*): per diode

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## Electrical characteristics (per diode)

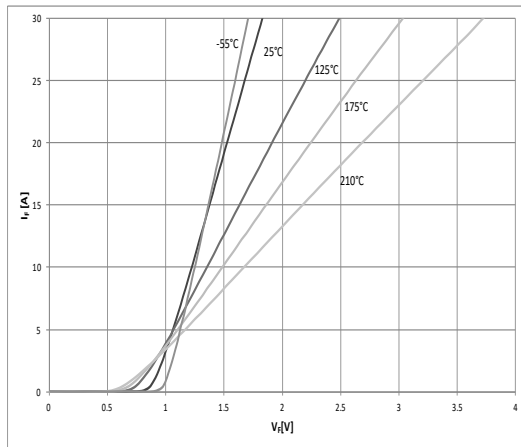
Unless otherwise stated,  $T_j = 25^\circ\text{C}$ . **Bold** figures point out values valid over the whole temperature range ( $T_j = -55^\circ\text{C}$  to  $+210^\circ\text{C}$ ).

Parameter	Symbol	Condition	Min	Typ	Max	Unit
DC Blocking Voltage	$V_{DC}$		<b>1200</b>			V
Forward Voltage	$V_F$	$T_j = 25^\circ\text{C}; I_F = 20\text{A}$		1.5		V
		$T_j = 210^\circ\text{C}; I_F = 20\text{A}$		2.7		V
Reverse Current	$I_R$	$T_j = 25^\circ\text{C}; V_R = 1200\text{A}$		20		$\mu\text{A}$
		$T_j = 210^\circ\text{C}; V_R = 1200\text{A}$		500		$\mu\text{A}$
Total Capacitive Charge	$Q_C$	$I = 20\text{A}, V_R = 600\text{V}, T_j = 25^\circ\text{C}, di/dt = 500\text{A}/\mu\text{s}$		61		nC
Total Capacitance	C	$T_j = 25^\circ\text{C}; V_R = 0\text{V}; f = 1\text{ MHz}$		TBD		pF
		$T_j = 25^\circ\text{C}; V_R = 200\text{V}; f = 1\text{ MHz}$		TBD		pF
		$T_j = 25^\circ\text{C}; V_R = 400\text{V}; f = 1\text{ MHz}$		TBD		pF

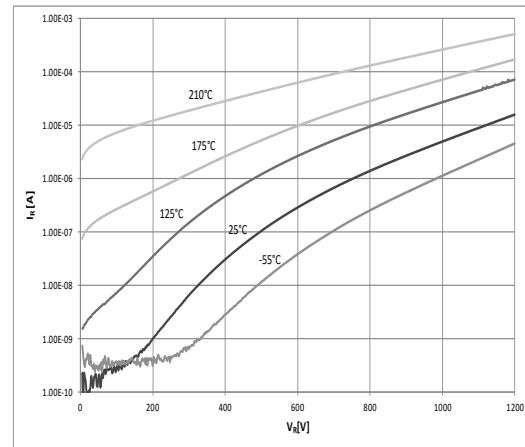
## Thermal Characteristics (per diode)

Parameter	Symbol	Condition	Min	Typ	Max	Unit
Junction-to-Case Thermal resistance	$R_{\theta JC}$			1.1		$^\circ\text{C}/\text{W}$

## Typical performances

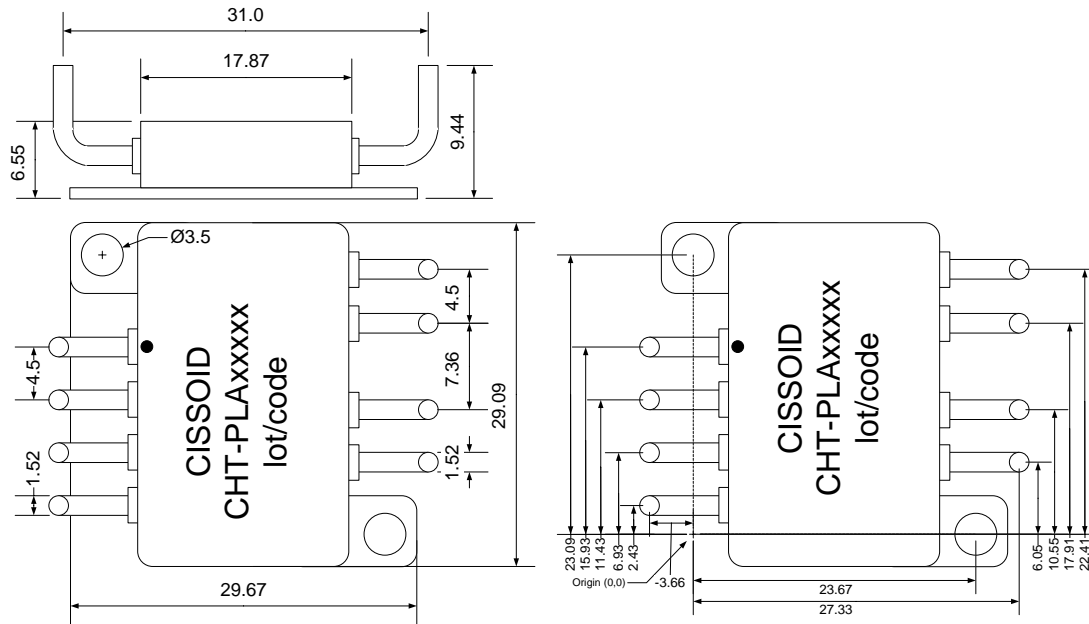


**Figure 1:** Diode  $I_F$  vs  $V_F$



**Figure 2:** Diode  $I_R$  vs  $V_R$

## Package Dimensions



HM8A dimensions in mm (+/- 10%)

## Ordering Information

Product Name	Ordering Reference	Package	Marking
CHT-EUROPA-A1220	CHT-PLA3143A-HM8A-T	HM8A	CHT-PLA3143A

## Related products

Product Name	Function	Ordering Reference
CHT-EUROPA-A1230	Dual 1200V/30A Schottky Diode Module	CHT-PLA1971A-HM8A-T

## Contact & Ordering

### CISSOID S.A.

<b>Headquarters and contact EMEA:</b>	CISSOID S.A. – Rue Francqui, 11 – 1435 Mont Saint Guibert - Belgium T : +32 10 48 92 10 - F: +32 10 88 98 75 Email: <a href="mailto:sales@cissoid.com">sales@cissoid.com</a>
<b>Sales Representatives:</b>	Visit our website: <a href="http://www.cissoid.com">http://www.cissoid.com</a>

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