Version: 1.6

CHT-CALLISTO DATASHEET
Dual Common Anode Small Signal Diodes

General description

CHT-CALLISTO features high temperature dual common anode 80V / 300mA diodes packaged in a hermetically sealed TO18 metal can. It is designed to achieve high performance in an extremely wide temperature range: typical operation temperature goes from -55°C to 225°C while keeping leakage currents low. This dual diode can be used in a variety of applications, including rectification and general purpose.

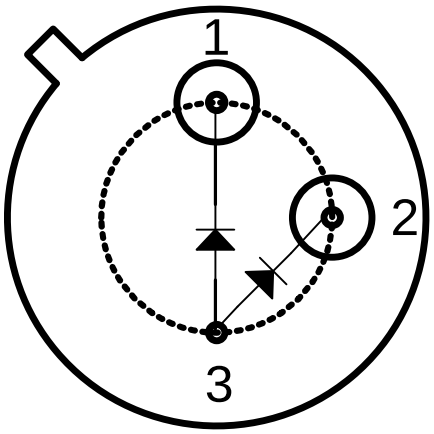
Features

- Specified from **-55 to +225°C** (Tj)
- Reverse voltage: **V_R = 80V** (max)
- Forward current**: I_F = 280 mA** (max @ 225°C (Tj) and VF = 1.5V)
- Forward voltage**:**
  V_F = 0.7V (typ. @ I_F = 1mA)
- Junction capacitance:
  C_j=8.5pF (typ. @ V_R = 25V)
- Package: Hermetically sealed metal can TO18
- Validated at 225°C for 7000 hours

Applications

- Voltage multiplier / charge-pumps
- Signal rectification
- General purpose diode

Package Configuration



Pin Number	Pin Name
1	K1
2	K2
3	A1

TO18 (bottom view) (case connected to pin 3)

Absolute Maximum Ratings

Reverse voltage V_R	80V
Forward surge current I_{FSM}	300mA
Power dissipation T_c=25°C	450mW
Junction temperature T_j	250°C

Operating Conditions

Reverse voltage V_R	0V to 80V
Continuous forward current I_F	0mA to 250mA
Forward voltage V_F	0V to 1.5V
Power dissipation T_c=25°C	350mW
Junction temperature	-55°C to +225°C

Electrical characteristics

Unless otherwise stated, T_j = 25°C. **Bold** figures point out values valid over the whole temperature range (T_j = -55°C to +225°C).

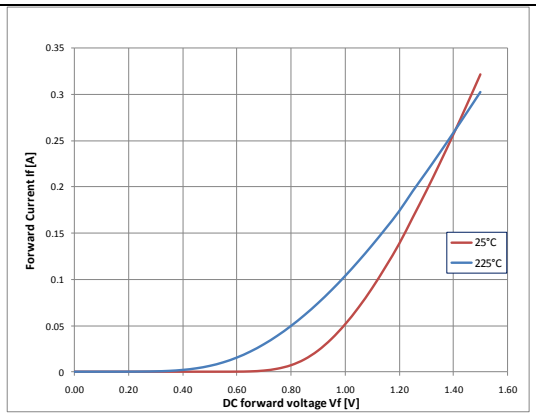
Parameter	Symbol	Condition	Min	Typ	Max	Unit
Forward voltage	V_F	I_F=1mA, T_j=25°C		0.7		V
Forward current	I_F				**280**	mA
Reverse leakage current	I_R	V_R=80V, T_j=25°C		2.11		nA
		V_R=80V, T_j=225°C		8.9		uA
Breakdown reverse voltage	$V_{(BR)}$		**80**			V
Junction capacitance	Cj	V_R=25V		8.5		pF
Reverse recovery time[1]	t_{rr}	V_R = 80V I_F = 950 mA T_a = 25°C		56		ns
Peak reverse recovery current	I_{rrp}			690		mA

Thermal Characteristics

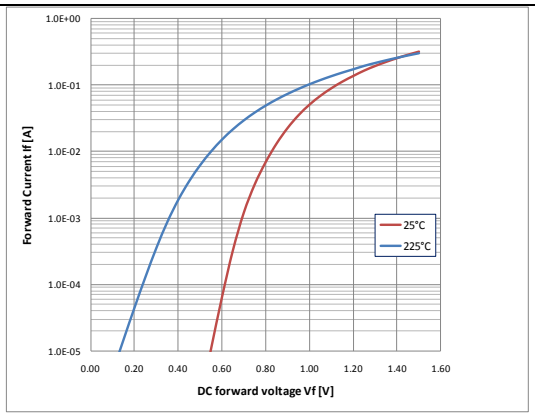
Parameter	Symbol	Condition	Min	Typ	Max	Unit
Junction to case thermal resistance	Θ_{JC}	TO-18 package		60		°C/W

[1] t_{rr} measured between point where current crosses zero and current reaches 10% of peak reverse recovery current

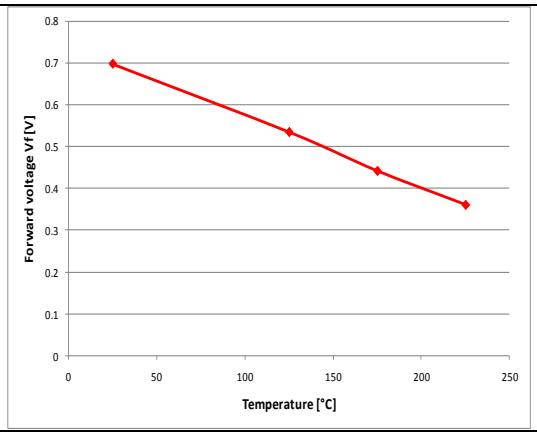
Typical Performance Characteristics (applicable to each diode)



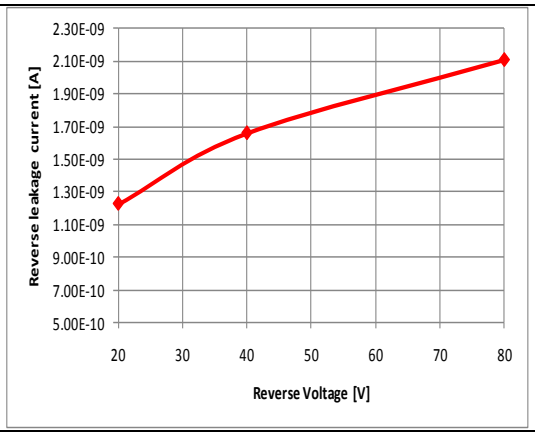
Forward current vs. forward voltage and temperature (linear scale).



Forward current vs. forward voltage and temperature (log_{10} scale).

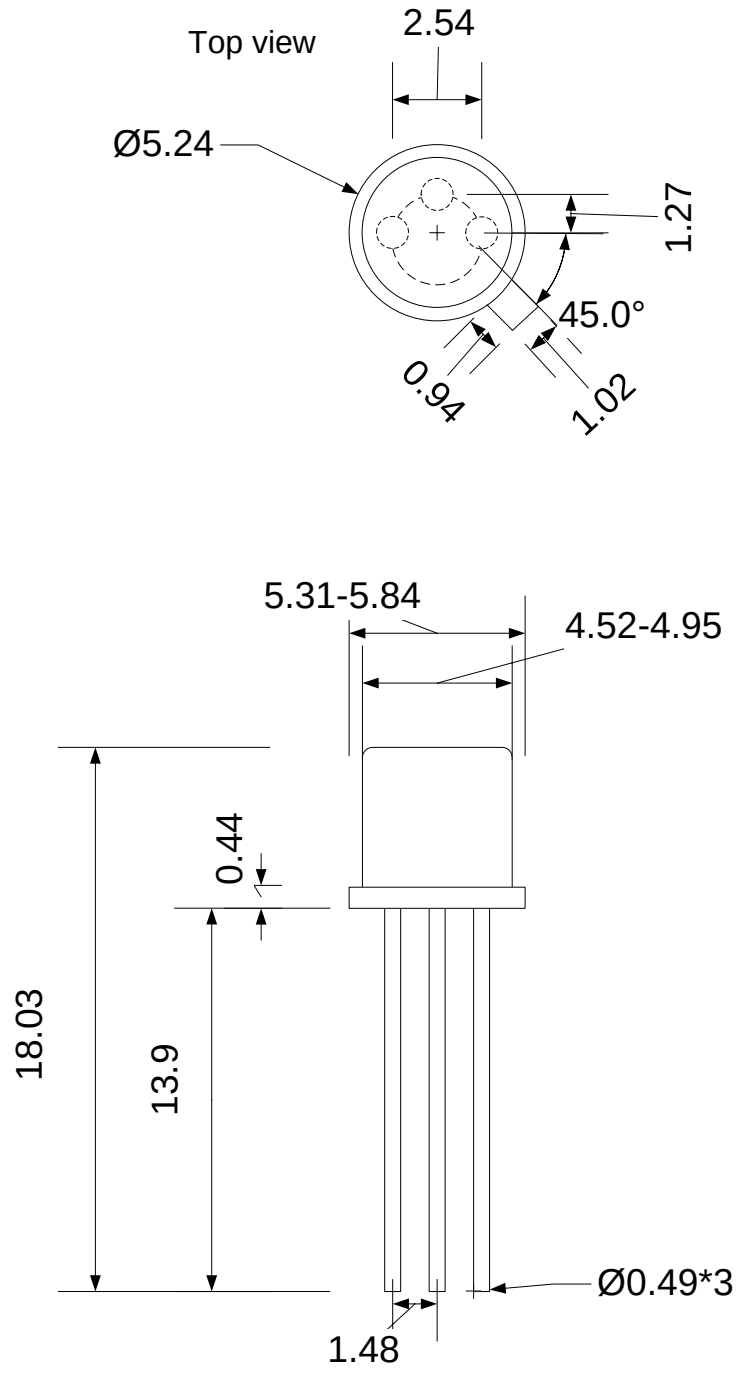


Forward voltage (at forward current I_F=1mA) vs. temperature.



Reverse leakage current vs. reverse voltage (T = 25°C).

Package Dimensions



Drawing TO18 (mm +/- 10%)

Ordering Information

Product Name	Ordering Reference	Package	Marking
CHT-CALLISTO	CHT-PLA5520A-TO18-T	TO-18	CHT-5520A

Contact & Ordering

CISSOID S.A.

Headquarters and contact EMEA:	CISSOID S.A. – Rue Francqui, 3 – 1435 Mont Saint Guibert - Belgium T : +32 10 48 92 10 - F: +32 10 88 98 75 Email: sales@cissoid.com
Sales Representatives:	**Visit our website: http://www.cissoid.com**

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Document history

Revision	Modification	Author	Date
1.0	First issue	EVZ	15-nov-2011
1.1	Change max If from 300mA to 280mA (based on qual results)	EVZ	3-Feb-2012
1.2	Add diode reverse recovery information	EVZ	29-May-2012
1.3	Add Preliminary Statement since no DR5 reached yet	EVZ	14-Sep-2012
1.4	Release version: “Preliminary watermark” removed	EVZ	16-Oct-2012
1.5	Update TO-18 package drawing	EVZ	12-Nov-2013
1.6	Added HALT duration statement	EVZ	23-Mar-2018

Approvals

17/05/2018

X Pierre Delatte

Marketing

X

Engineering

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