

Crystal LTD TM SPEC Form

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Customer

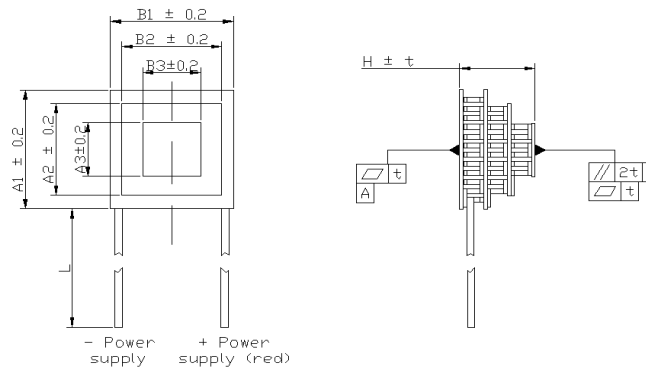
PO#

PO date

Thermoelectric module (TM) specification

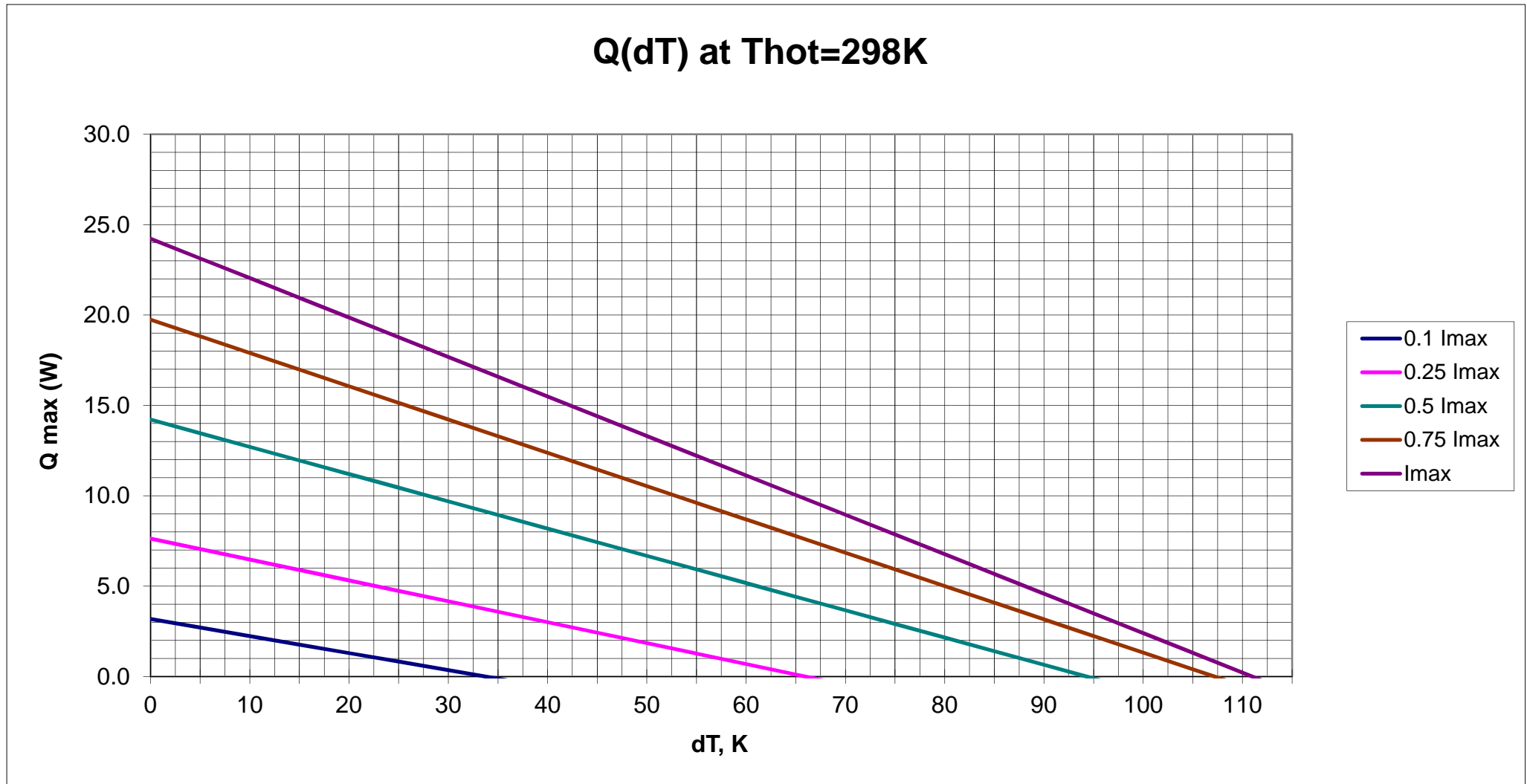
| PO position # | TM             | Internal Solder Melting Temp, C | Max operating temperature, °C |                      | Parameters in vacuum at hot side temperature 25 °C |                      |                      |                       | Rac at 25 °C |                | Ceramic size, mm |          | TM Height  |                   | Wire     |            |                 | Sealing |
|---------------|----------------|---------------------------------|-------------------------------|----------------------|----------------------------------------------------|----------------------|----------------------|-----------------------|--------------|----------------|------------------|----------|------------|-------------------|----------|------------|-----------------|---------|
|               |                |                                 | short peak                    | continuous operation | I <sub>max</sub> , A                               | U <sub>max</sub> , V | Q <sub>max</sub> , W | dT <sub>max</sub> , K | Rac, Ohm     | Tolerance ±, % | A1/A2/A3         | B1/B2/B3 | Height, mm | Tolerance t, ± mm | S, AWG # | Length, mm | Tolerance ±, mm |         |
| 1             | 3-229-20-15-L2 | 138                             | 130                           | 115                  | 8.3                                                | 15.5                 | 24.2                 | 111                   | 1.81         | 10             | 62/40/31         | 62/40/31 | 12.90      | 0.02              | 20       | 100        | 5               |         |
|               |                |                                 |                               |                      |                                                    |                      |                      |                       |              |                |                  |          |            |                   |          |            |                 |         |
|               |                |                                 |                               |                      |                                                    |                      |                      |                       |              |                |                  |          |            |                   |          |            |                 |         |
|               |                |                                 |                               |                      |                                                    |                      |                      |                       |              |                |                  |          |            |                   |          |            |                 |         |
|               |                |                                 |                               |                      |                                                    |                      |                      |                       |              |                |                  |          |            |                   |          |            |                 |         |

Clamping force: 11.2 - 22.4 kg



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Max dT is reduced by 2-3K for silicon sealed and 1-2K for epoxy sealed versions.



### U(dT) at $T_{hot}=298K$

