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|  | |  | | --- | | **Simulation of Part1**  **Date: 23 Temmuz 2018 Pazartesi Designer: Solidworks**  **Study name: Thermal 1**  **Analysis type: Thermal(Steady state)** | | Table of Contents  [Description 1](#_Toc520120062)  [Assumptions 2](#_Toc520120063)  [Model Information 2](#_Toc520120064)  [Study Properties 3](#_Toc520120065)  [Units 3](#_Toc520120066)  [Material Properties 4](#_Toc520120067)  [Thermal Loads 4](#_Toc520120068)  [Contact Information 5](#_Toc520120069)  [Mesh information 6](#_Toc520120070)  [Sensor Details 7](#_Toc520120071)  [Study Results 8](#_Toc520120072)  [Conclusion 9](#_Toc520120073) | |
| Description No Data |

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| Assumptions |

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| Model Information  |  |  |  |  |  | | --- | --- | --- | --- | --- | | |  | | --- | |  |   ****Model name:** Part1**  ****Current Configuration:** Varsayılan** | | | | | ****Solid Bodies**** | | | | | ****Document Name and Reference**** | ****Treated As**** | ****Volumetric Properties**** | ****Document Path/Date Modified**** | | **Split2[2]** | **Solid Body** | ****Mass:0.433768 kg****  ****Volume:0.000160655 m^3****  ****Density:2700 kg/m^3****  ****Weight:4.25093 N**** | ****C:\Users\nailt\Desktop\my\_git\Thermal-Analysis\Part1.SLDPRT****  **Jul 23 14:35:35 2018** | | **Split2[1]** | **Solid Body** | ****Mass:0.000612 kg****  ****Volume:6e-007 m^3****  ****Density:1020 kg/m^3****  ****Weight:0.0059976 N**** | ****C:\Users\nailt\Desktop\my\_git\Thermal-Analysis\Part1.SLDPRT****  **Jul 23 14:35:35 2018** | |

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| Study Properties  |  |  | | --- | --- | | Study name | Thermal 1 | | Analysis type | Thermal(Steady state) | | Mesh type | Solid Mesh | | Solver type | FFEPlus | | Solution type | Steady state | | Contact resistance defined? | No | | Result folder | SOLIDWORKS document (C:\Users\nailt\Desktop\my\_git\Thermal-Analysis) | |

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| Units  |  |  | | --- | --- | | Unit system: | SI (MKS) | | Length/Displacement | mm | | Temperature | Kelvin | | Angular velocity | Rad/sec | | Pressure/Stress | N/mm^2 (MPa) | |

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| Material Properties  |  |  |  | | --- | --- | --- | | ****Model Reference**** | ****Properties**** | ****Components**** | |  | |  |  | | --- | --- | | ****Name:**** | **1060 Alloy** | | ****Model type:**** | **Linear Elastic Isotropic** | | ****Default failure criterion:**** | **Unknown** | | ****Thermal conductivity:**** | **2 W/(cm.K)** | | ****Specific heat:**** | **215.105 Cal/(kg.C)** | | ****Mass density:**** | **2.7 g/cm^3** | | **SolidBody 1(Split2[2])(Part1)** | | **Curve Data:N/A** | | | |  | |  |  | | --- | --- | | ****Name:**** | **Thermal-Paste** | | ****Model type:**** | **Linear Elastic Isotropic** | | ****Default failure criterion:**** | **Unknown** | | ****Thermal conductivity:**** | **0.28 W/(cm.K)** | | ****Specific heat:**** | **331.262 Cal/(kg.C)** | | ****Mass density:**** | **1.02 g/cm^3** | | **SolidBody 3(Split2[1])(Part1)** | | **Curve Data:N/A** | | | |

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| **Thermal Loads**  | ****Load name**** | ****Load Image**** | ****Load Details**** | | --- | --- | --- | | **Heat Power-1** |  | |  |  | | --- | --- | | Entities: | **1 face(s)** | | Heat Power Value: | **25 W** | | | **Convection-1** |  | |  |  | | --- | --- | | Entities: | **47 face(s)** | | Convection Coefficient: | **5 W/(m^2.K)** | | Time variation: | **Off** | | Temperature variation: | **Off** | | Bulk Ambient Temperature: | **300 Kelvin** | | Time variation: | **Off** | | |

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| Contact Information  | Contact | Contact Image | Contact Properties | | --- | --- | --- | | Global Contact |  | |  |  | | --- | --- | | Type: | **Bonded** | | Components: | **1 component(s)** | | Options: | **Compatible mesh** | | |

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
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| Mesh information  |  |  | | --- | --- | | Mesh type | Solid Mesh | | Mesher Used: | Standard mesh | | Automatic Transition: | Off | | Include Mesh Auto Loops: | Off | | Jacobian points | 4 Points | | Element Size | 0.00726609 m | | Tolerance | 0.000363304 m | | Mesh Quality Plot | High |  Mesh information - Details  |  |  | | --- | --- | | Total Nodes | 17604 | | Total Elements | 8728 | | Maximum Aspect Ratio | 20.228 | | % of elements with Aspect Ratio < 3 | 17.6 | | % of elements with Aspect Ratio > 10 | 0.458 | | % of distorted elements(Jacobian) | 0 | | Time to complete mesh(hh;mm;ss): | 00:00:03 | | Computer name: |  | |  | | |

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| Sensor Details No Data |

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| Study Results  | Name | Type | Min | Max | | --- | --- | --- | --- | | Thermal1 | TEMP: Temperature | 3.379e+002Kelvin  Node: 248 | 3.451e+002Kelvin  Node: 17454 | | **Part1-Thermal 1-Thermal-Thermal1** | | | |  |  | | --- | |  | | **Image-1** | |

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| Conclusion |