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|---|--|---------------------------------------|---------------------------------|-------------------------------|---------------------|
| PCN Number: | 20140926000 | | PCN Date: | 09/30/2014 | |
| Title: | Qualification of 4211649 Mold Compound for Selected PowerPad QFP Device(s) | | | | |
| Customer Contact: | PCN Manager | Phone: | +1(214)480-6037 | Dept: Quality Services | |
| Proposed 1st Ship Date: | 12/30/2014 | Estimated Sample Availability: | Date provided at sample request | | |
| Change Type: | | | | | |
| <input type="checkbox"/> | Assembly Site | <input type="checkbox"/> | Design | <input type="checkbox"/> | Wafer Bump Site |
| <input type="checkbox"/> | Assembly Process | <input type="checkbox"/> | Data Sheet | <input type="checkbox"/> | Wafer Bump Material |
| <input checked="" type="checkbox"/> | Assembly Materials | <input type="checkbox"/> | Part number change | <input type="checkbox"/> | Wafer Bump Process |
| <input type="checkbox"/> | Mechanical Specification | <input type="checkbox"/> | Test Site | <input type="checkbox"/> | Wafer Fab Site |
| <input type="checkbox"/> | Packing/Shipping/Labeling | <input type="checkbox"/> | Test Process | <input type="checkbox"/> | Wafer Fab Materials |
| | | | | <input type="checkbox"/> | Wafer Fab Process |
| PCN Details | | | | | |
| Description of Change: | | | | | |
| Texas Instruments is pleased to announce the qualification of 4211649 Mold Compound for Select PowerPad QFP devices listed in "Product affected" section below. Devices will remain in current assembly facility and there will be no other piece part changes. | | | | | |
| | From | To | | | |
| Mold Compound | 4205443 | 4211649 | | | |
| Reason for Change: | | | | | |
| Continuity of supply. | | | | | |
| Anticipated impact on Fit, Form, Function, Quality or Reliability (positive / negative): | | | | | |
| None. | | | | | |
| Changes to product identification resulting from this PCN: | | | | | |
| None. | | | | | |
| Product Affected: | | | | | |
| 2509209-0001 | DRV83055PHP | TAS5715PHP | TPA3100D2GPHPR | | |
| 2509209-0001E | DRV83055PHPR | TAS5715PHPR | TPA3100D2PHP | | |
| 2509209-0001EE | DRV8809PAP | TAS5716PAP | TPA3100D2PHP-P | | |
| 3DDAD1000CPFP | DRV91620PHPR | TAS5716PAPR | TPA3100D2PHPG4 | | |
| 5962-0051101NXD | DRV91670PHP | TAS5717LPHP | TPA3100D2PHPR | | |
| ADS1174IPAPR | DRV91670PHPR | TAS5717LPHPR | TPA3100D2PHPRG4 | | |
| ADS1174IPAPRG4 | DRV92200PHP | TAS5717PHP | TPA3101D2PHP | | |
| ADS1174IPAPT | DRV92200PHPR | TAS5717PHPR | TPA3101D2PHPG4 | | |
| ADS1174IPAPTG4 | DRV92250PHP | TAS5719PHP | TPA3101D2PHPR | | |
| ADS1178IPAPR | DRV92250PHPR | TAS5719PHPR | TPA3106D1VFP | | |
| ADS1178IPAPT | HPA00046PZP | TAS5727APHP | TPA3106D1VFPG4 | | |
| ADS1178IPAPTG4 | HPA00068IPAP | TAS5727APHPR | TPA3106D1VFPR | | |
| ADS1274IPAPR | HPA00297PHPR | TAS5727PHP | TPA3107D2PAP | | |
| ADS1274IPAPT | MPD23754MPZP | TAS5727PHPR | TPA3107D2PAP-3 | | |
| ADS1274IPAPTG4 | PCM3168APAP | TAS5731PHP | TPA3107D2PAPG4 | | |
| ADS1278HPAP | PCM3168APAPR | TAS5731PHPR | TPA3107D2PAPR | | |
| ADS1278IPAPR | PCM3168APAPRG4 | TAS5733APHP | TPA3107D2PAPRG4 | | |
| ADS1278IPAPT | PCM4204PAPR | TAS5733APHPR | TPA3107D2PAPT | | |
| ADS1278IPAPTG4 | PCM4204PAPRG4 | TAS5733PHP | TPA3107D2PAPTG4 | | |

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| ADS1605IPAPR | PCM4204PAPT | TAS5733PHPR | TPS2342PFPR |
| ADS1605IPAPT | PCM4204PAPTG4 | TAS5735PHP | TPS23841PAP |
| ADS1605IPAPTG4 | PCM5310PAP | TAS5735PHPR | TPS23841PAPG4 |
| ADS1606IPAPT | PCM5310PAPR | TAS5739MDPHP | TPS23841PAPR |
| ADS1606IPAPTG4 | PDRV83053PHP | TAS5739MDPHPR | TPS23841PAPRG4 |
| ADS1610IPAPR | PDRV83055PHP | TAS5743MPHP | TPS23841PJD |
| ADS1610IPAPT | PSNBA067B0PHP | TAS5745PHP | TPS23841PJDG4 |
| ADS1625IPAPT | PSNC2024A0PHP | TAS5745PHPR | TPS2384APAPR |
| ADS1626IPAPT | PSNC2024A1PHP | TFP101APZP | TPS2384APJD |
| ADS2806Y/250 | PSNC2024A2PHP | TFP101APZPG4 | TPS2384APJDR |
| ADS2807Y/1K5 | PSNC2024A2PHPR | TFP201APZP | TPS2384PAP |
| ADS2807Y/250 | PSNC2024A3PHP | TFP201APZPG4 | TPS2384PAPG4 |
| ADS5240IPAP | PSNC2024A3PHPR | TFP201PZP | TPS2384PAPR |
| ADS5240IPAPG4 | PTAS5705PAP | TFP401APZP | TPS2384PAPRG4 |
| ADS5240IPAPT | PTAS5705PAPR | TFP401APZPG4 | TPS2384PJD |
| ADS5240IPAPTG4 | SC211038PAP | TFP401PZP | TPS2384PJDR |
| ADS5242IPAP | SC62091A5PAP | TFP401PZPG4 | TRF2443IPFP |
| ADS5242IPAPT | SD200PHD | TFP403PZP | TRF2443IPFPR |
| ADS5242IPAPTG4 | SD200PHDR | TFP403PZPG4 | TSB41AB1PAP |
| ADS5270IPFP | SH6128BDT0PAPRG4 | TFP410PAP | TSB41AB1PAPG4 |
| ADS5270IPFPG4 | SH6601AFC0PAPG4 | TFP410PAPG4 | TSB41AB1PHP |
| ADS5270IPFPT | SH6601AFD0PAPG4 | TFP410PAPR | TSB41AB1PHPG4 |
| ADS5270IPFPTG4 | SH6601AFU0PAPG4 | TFP501PZP | TSB41AB2PAP |
| ADS5271IPFP | SH6964BDC0PAPG4 | TFP503PZP | TSB41AB2PAPG4 |
| ADS5271IPFPG4 | SLK2501IPZP | TFP510PAP | TSB41AB2PAPR |
| ADS5271IPFPT | SLK2501IPZPG4 | TFP513PAP | TSB41AB2PAPRG4 |
| ADS5271IPFPTG4 | SLK2511AIPZP | TFP513PAPG4 | TSB41AB3PFP |
| ADS5272IPFP | SLK2511BPZP | THS6132VFP | TSB41AB3PFFG4 |
| ADS5272IPFPG4 | SLK2511CPZP | THS7327PHP | TSB41BA3APFP |
| ADS5272IPFPT | SLK2511IPZP | THS7327PHPR | TSB41BA3APFFG4 |
| ADS5272IPFPTG4 | SLK2701IPZP | THS7327PHPRG4 | TSB41BA3BPFP |
| ADS5273IPFP | SLK2721IPZP | THS7347IPHP | TSB41BA3BPFFG4 |
| ADS5273IPFPG4 | SN0211038PAPG4 | THS7347IPHPG4 | TSB41BA3DIPFP |
| ADS5273IPFPT | SN0509045IPZP | THS7347IPHPR | TSB41BA3DPFP |
| ADS5277IPFP | SN081BA3PFP | THS788PFD | TSB41LV03APFP |
| ADS5277IPFPG4 | SN1012039IPFPR | THS788PFD | TSB41LV04APFP |
| ADS5277IPFPT | SN104961PJPG4 | THS789PFD | TSB41LV06APZP |
| ADS5281IPFP | SN104969VFPRG4 | THS789PFD | TSB41LV06APZPG4 |
| ADS5281IPFPG4 | SN105108APJPG4 | THS8135PHP | TSB81BA3EIPFP |
| ADS5281IPFPR | SN105117BPZPG4 | THS8135PHPG4 | TSB81BA3EPFP |
| ADS5292IPFP | SN105120PHPG4 | THS8136IPHP | TSB81BA3PFP |
| ADS5292IPFPR | SN1102043PZP | THS8136IPHPR | TSB81BA3PFFG4 |
| ADS5292IPFPT | SN2110380PAPG4 | THS8136PHP | TUSB8020BIPHPTQ1 |
| ADS5294IPFP | SN211038PAPG4 | THS8136PHPR | TUSB8020BPHT |
| ADS5294IPFPR | SN2342PFPR | THS8200PFP | TUSB8040APFP |
| ADS5294IPFPT | SN65LVCP408PAPR | TLC5904PZP | TUSB8040PFP |
| ADS5295PFP | SN65LVCP408PAPT | TLC5905PAP | TUSB8041TCPAP |
| ADS5295PFPR | SN65LVCP418PAPR | TLC5911PZP | TUSB9260PVP |
| ADS5295PFPT | SN65LVCP418PAPT | TLK100PHP | TUSB9261IPAPTQ1 |
| ADS5400IPZP | SN84002B3PAP | TLK100PHPR | TUSB9261IPVP |
| ADS5400IPZPR | SN84002B3PAPR | TLK1201AIRCP | TUSB9261IPVPR |

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| ADS5413IPHP | SN84002PAP | TLK1201AIRCPG4 | TUSB9261IPVPT |
| ADS5440IPFP | SN84002PAPR | TLK1201AIRCPR | TUSB9261PAP |
| ADS5444IPFP | SN84002PAPT | TLK1201AIRCPRG4 | TUSB9261PVP |
| ADS5444IPFPG4 | SN96019PFPR | TLK1201ARCP | TUSB9261PVPR |
| ADS5444IPFPR | SNA1026PHPR | TLK1201ARCPG4 | TUSB9261PVPT |
| ADS5463IPFP | SNB1041PHP | TLK1201ARCPR | TVP5145PFP |
| ADS5463IPFPG4 | SNB1041PHPR | TLK1201ARCPRG4 | TVP5145PFPG4 |
| ADS5463IPFPR | SNB1057PHP | TLK1201IRCP | TVP5146M2IPFP |
| ADS5474IPFP | SNB1057PHPR | TLK1201IRCPR | TVP5146M2IPFPR |
| ADS5474IPFPG4 | SNC2024PHP | TLK1201RCP | TVP5146M2PFP |
| ADS5474IPFPR | SNC2024PHPR | TLK1211RCP | TVP5146M2PFPR |
| ADS5474IPFPRG4 | SNC2025PHP | TLK1211RCPG4 | TVP5146PFP |
| ADS54RF63IPFP | SNC2025PHPR | TLK1501IRCP | TVP5146PFPR |
| ADS54RF63IPFPR | TAS3208IPZP | TLK1501IRCPG4 | TVP5147M1IPFP |
| ADS5500IPAP | TAS3208PZP | TLK1501IRCPR | TVP5147M1IPFPR |
| ADS5500IPAPR | TAS3208PZPR | TLK1501IRCPRG4 | TVP5147M1PFP |
| ADS5510IPAP | TAS3218IPZP | TLK1521IPAP | TVP5147M1PFPR |
| ADS5510IPAPR | TAS3218IPZPR | TLK1521IPAPG4 | TVP5147PFP |
| ADS5520IPAP | TAS5611APHD | TLK2201ARCP | TVP5147PFPR |
| ADS5520IPAPG4 | TAS5611APHDR | TLK2201ARCPG4 | TVP5154AIPNP |
| ADS5520IPAPR | TAS5611PHD | TLK2201BIRCP | TVP5154AIPNPR |
| ADS5521IPAP | TAS5611PHDR | TLK2201BIRCPG4 | TVP5154APNP |
| ADS5521IPAPG4 | TAS5612APHD | TLK2201BIRCPR | TVP5154APNPR |
| ADS5522IPAP | TAS5612APHDR | TLK2201BIRCPRG4 | TVP5154PNP |
| ADS5522IPAPG4 | TAS5612PHD | TLK2201BRCP | TVP5154PNPR |
| ADS5522IPAPR | TAS5612PHDR | TLK2201BRCPG4 | TVP5156PNP |
| ADS5541IPAP | TAS5613APHD | TLK2201BRCP | TVP5157PNP |
| ADS5541IPAPR | TAS5613APHDR | TLK2201BRCPG4 | TVP5157PNPR |
| ADS5542IPAP | TAS5613PHD | TLK2201IRCP | TVP5158IPNP |
| ADS5542IPAPG4 | TAS5613PHDR | TLK2201RCP | TVP5158IPNPR |
| ADS5553IPFP | TAS5614APHD | TLK2201RCPR | TVP5158PNP |
| ADS5553IPFPR | TAS5614APHDR | TLK2211RCP | TVP5158PNPR |
| ADS58C20IPFP | TAS5614PHD | TLK2211RCPR | TVP5160M1PNP |
| ADS58C20IPFPR | TAS5614PHDR | TLK2211RCPRG4 | TVP5160PNP |
| ADS58C23IPFP | TAS5615PHD | TLK2501IRCP | TVP7000PZP |
| ADS58C23IPFPR | TAS5616PHD | TLK2501IRCPG4 | TVP7000PZPR |
| ADS58C48IPFP | TAS5616PHDR | TLK2501IRCPR | TVP7001PZP |
| ADS58C48IPFPR | TAS5630BPHD | TLK2501IRCPRG4 | TVP7001PZPR |
| ADS808Y/250 | TAS5630BPHDR | TLK2521IPAP | TVP70025IPZP |
| ADS809Y/250 | TAS5630BSPHD | TLK2521IPAPG4 | TVP70025IPZPR |
| AMC7812SPAPR | TAS5630BSPHDR | TLK2541PFP | TVP7002PZP |
| ATDX2462EPPNP | TAS5630PHD | TLK2541PFPG4 | TVP7002PZPR |
| BQ76PL536APAP | TAS5631BPHD | TLK2541PFPR | VCA5807PZP |
| BQ76PL536APAPR | TAS5631BPHDR | TLK2541PFPRG4 | XIO2001IPNP |
| BQ76PL536APAPT | TAS5631PHD | TLK2701IRCP | XIO2001PNP |
| BQ76PL536BPAPR | TAS5631PHDR | TLK2701IRCPG4 | ADS2807Y/1K5G4 |
| CDCLVP111VFP | TAS5701PAP | TLK2701IRCPR | ADS2807Y/250G4 |
| CDCLVP111VFPR | TAS5701PAP-P | TLK2701IRCPRG4 | ADS5411IPGP |
| D703E002BRFP200 | TAS5701PAPR | TLK2711AIRCP | ADS5411IPGPR |
| D705E002BRFP250 | TAS5701PAPRG4 | TLK2711AIRCPR | ADS5423IPGP |
| D707E001BRFP250 | TAS5704PAP | TLK2711IRCP | ADS5423IPGPR |

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| D708E001BRFP266 | TAS5704PAP-P | TLK2711IRCPG4 | ADS5424IPGP |
| D708E001BRFP266M | TAS5704PAPR | TLK3101IRCP | ADS5424IPGPR |
| D708E001BRFP266Z | TAS5704PAPRG4 | TLK3101IRCPG4 | ADS808Y/250G4 |
| D708E002BRFP266 | TAS5705PAP | TMDS442PNP | BQ76PL536BPAPT |
| D70YE101BRFP266 | TAS5705PAPR | TMDS442PNPG4 | PSNB7031B2PFP |
| D787E001BRFP250 | TAS5706APAP | TMDS442PNPR | SN96019PFP |
| D787E001BRFP250L | TAS5706APAPG4 | TMS320C6720BRFP200 | SNB7031PFP |
| D788E001BRFP266 | TAS5706APAPR | TMS320C6722BRFP200 | SNB7031PFPR |
| D788E001BRFP266Z | TAS5706APAPRG4 | TMS320C6722BRFP250 | TAS5615APHD |
| D788E002BRFP266 | TAS5706BPAP | TMS320C6726BRFP266 | TAS5615APHDR |
| DAC5674IPHP | TAS5706BPAPR | TNETE2201BPHD | TAS5615PHDR |
| DAC5674IPHPG4 | TAS5706PAP | TNETE2201BPJD | TAS5630APHD |
| DAC5674IPHPR | TAS5706PAP-P | TNETE2201BPJDR | TAS5630APHDR |
| DAC5675AIPHP | TAS5706PAPR | TNETE2201BPJDRG4 | TAS5630PHDR |
| DAC5675AIPHPG4 | TAS5707APHP | TNETE2201BPJW | TAS5711PHP |
| DAC5675AIPHPR | TAS5707APHPR | TNETE2201BPJWG4 | TAS5711PHPR |
| DAC5675IPHP | TAS5707LPHP | TNETE2201BPJWR | TAS5731MPHP |
| DAC5675IPHPG4 | TAS5707LPHPR | TNETE2201BPJWRG4 | TAS5731MHPHR |
| DAC5686IPZP | TAS5707PHP | TNETV115PAP | TAS5743MHPHR |
| DAC5686IPZPG4 | TAS5707PHPR | TPA3002D2PHP | TAS5747PHP |
| DAC5687IPZP | TAS5708LPHP | TPA3002D2PHPG4 | TAS5747PHPR |
| DAC5687IPZPG4 | TAS5708LPHPR | TPA3002D2PHPR | TPA3004D2PHP |
| DAC5687IPZPR | TAS5708PHP | TPA3004D2PHP-P | TPA3004D2PHPG4 |
| DAD1000CPFPG4 | TAS5708PHPR | TPA3004D2PHPR | TSB81BA3DPFP |
| DP83867PAPR | TAS5709AGPHP | TPA3004D2PHPRG4 | TSB81BA3DPFPG4 |
| DRV591VFP | TAS5709AGPHPR | TPA3005D2PHP | D607A003BRFP200 |
| DRV591VFPG4 | TAS5709APHP | TPA3005D2PHPG4 | D607A003BRFPA200 |
| DRV591VFPR | TAS5709APHPR | TPA3005D2PHPR | D60YA003BPYP225 |
| DRV591VFPRG4 | TAS5709GPHP | TPA3005D2PHPRG4 | D610A003BPYP225 |
| DRV592VFP | TAS5709GPHPR | TPA3008D2PHP | TMS320C6713BPYP200 |
| DRV593VFP | TAS5709PHP | TPA3008D2PHPG4 | TMS320C6713BPYP225 |
| DRV593VFPR | TAS5709PHPR | TPA3008D2PHPR | TMS32C6713BPYPA167 |
| DRV594VFP | TAS5710PHP | TPA3008D2PHPRG4 | TMS32C6713BPYPA200 |
| DRV594VFPR | TAS5710PHPR | TPA3009D2PHP | |
| DRV83053PHP | TAS5713PHP | TPA3009D2PHPR | |
| DRV83053PHPR | TAS5713PHPR | TPA3100D2GPHP | |

Qualification Report
G700LB mold compound enterprise qualification for PowerPad QFP packages in TAI and PHI sites
Approved 05/13/2014

Product Attributes

| Attributes | Qual Device: 6964BDC0PAPG4 | Qual Device: ADS58C20IPFP | Qual Device: D610A3BPYP225 | Qual Device: DRV593VFP_MSL1 | Qual Device: DRV593VFP_MSL2 | Qual Device: SLK2511CPZP |
|---------------------------|-------------------------------|------------------------------|-------------------------------|--------------------------------|--------------------------------|-----------------------------|
| Assembly Site | TAI | PHI | TAI | TAI | TAI | TAI |
| Package Family | HTQFP | HTQFP | HTQFP | HLQFP | HLQFP | HTQFP |
| Flammability Rating | UL 94 V-0 | UL 94 V-0 | UL 94 V-0 | UL 94 V-0 | UL 94 V-0 | UL 94 V-0 |
| Wafer Fab Site | MIHO8 | DMOS5 | DMOS 5 | HJI | HJI | ANAM |
| Wafer Fab Process | LBC7 | 1833C05 | 1233C035.A6C | LBC3S | LBC3S | 25C10 |
| Die Revision | BD | B | A | A | A | C |
| Passivation | SION | Oxide/Nitride | Oxide/Nitride | Nitride | Nitride | Oxide/Nitride |
| Package Attributes | Qual Device: 6964BDC0PAPG4 | Qual Device: ADS58C20IPFP | Qual Device: D610A3BPYP225 | Qual Device: DRV593VFP_MSL1 | Qual Device: DRV593VFP_MSL2 | Qual Device: SLK2511CPZP |
| Assembly Site | TAI | PHI | TAI | TAI | TAI | TAI |
| Package Family | HTQFP | HTQFP | HTQFP | HLQFP | HLQFP | HTQFP |
| Package Designator | PAP | PFP | PYP | VFP | VFP | PZP |
| Package Size (mils) | 393.7 X 393.7 | 472.44 X 472.44 | 1102.36 X 1102.36 | 275.59 X 275.59 | 275.59 X 275.59 | 393.7 X 393.7 |
| Body Thickness (mils) | 39.37 | 39.37 | 55.12 | 55.12 | 55.12 | 39.37 |
| Pin Count | 64 | 80 | 208 | 32 | 32 | 100 |
| Lead Frame Material | Cu | Cu Roughened | Cu | Cu | Cu | Cu and Cu Roughened |
| Lead Finish | NiPdAu | NiPdAu | NiPdAu | NiPdAu | NiPdAu | NiPdAu |
| Lead Pitch (mils) | 19.68 | 19.68 | 19.68 | 31.5 | 31.5 | 19.68 |
| Mount Compound | 4208458 | 4208458 | 4042504 | 4206201 | 4206201 | 4042504 |
| Mold Compound | 4211649 | 4211649 | 4211649 | 4211649 | 4211649 | 4211649 |
| Bond Wire Composition | Cu | Au | Au | Cu | Cu | Cu, PCC |
| Bond Wire Diameter (mils) | 0.96 | 0.96 | 0.96 | 0.96 | 0.96 | 0.96, 1.0 |
| Flammability Rating | UL 94 V-0 | UL 94 V-0 | UL 94 V-0 | UL 94 V-0 | UL 94 V-0 | UL 94 V-0 |

- QBS: Qual By Similarity
- Qual Device qualified at LEVEL4-260CG: D610A3BPYP225
- Qual Devices qualified at LEVEL3-260CG: 6964BDC0PAPG4, ADS58C20IPFP, SLK2511CPZP, TLK2201BIRCP, TUSB9260PVP, TVP70025IPZPR, TAS5707PHP, TVP5145PFP, TAS5631PHDR
- Qual Device qualified at LEVEL2-260CG: DRV593VFP
- Devices contain multiple dies: TAS5707PHP, TVP5145PFP

| Attributes | Qual Device: TAS5631PHDR | Qual Device: TLK2201BIRCP | Qual Device: TUSB9260PVP | Qual Device: TVP70025IPZPR | Qual Device: TAS5707PHP | Qual Device: TVP5145PFP |
|---------------------------|-----------------------------|------------------------------|-----------------------------|-------------------------------|----------------------------|----------------------------|
| Assembly Site | TAI | TAI | PHI | TAI | PHI | TAI |
| Package Family | HTQFP | HVQFP | HTQFP | HTQFP | HTQFP | HTQFP |
| Flammability Rating | UL 94 V-0 | UL 94 V-0 | UL 94 V-0 | UL 94 V-0 | UL 94 V-0 | UL 94 V-0 |
| Wafer Fab Site | DMOS5 | ANAM | DMOS6 | DMOS5 | RFAB | MIHO6 |
| | | | | | DMOS5 | ANAM |
| Wafer Fab Process | LBC5 | 25C10X4 | C021 | 1833C05 | 1833C05 | 33A12 |
| | | | | | LBC5X | 33C10.34L |
| Die Revision | C | F | D | B | - | C |
| | | | | | A0 | F |
| Passivation | Oxide/Nitride | Oxide/Nitride | Oxide/Nitride | Oxide/Nitride | Oxide/Nitride | Nitride |
| | | | | | Oxide/Nitride | |
| Package Attributes | Qual Device: TAS5631PHDR | Qual Device: TLK2201BIRCP | Qual Device: TUSB9260PVP | Qual Device: TVP70025IPZPR | Qual Device: TAS5707PHP | Qual Device: TVP5145PFP |
| Assembly Site | TAI | TAI | PHI | TAI | PHI | TAI |
| Package Family | HTQFP | HVQFP | HTQFP | HTQFP | HTQFP | HTQFP |
| Package Designator | PHD | RCP | PVP | PZP | PHP | PFP |
| Package Size (mils) | 472.44 X 472.44 | 393.7 X 393.7 | 275.59 X 275.59 | 551.18 X 551.18 | 275.59 X 275.59 | 472.44 X 472.44 |
| Body Thickness (mils) | 39.37 | 31.5 | 39.37 | 39.37 | 39.37 | 39.37 |
| Pin Count | 64 | 64 | 64 | 100 | 48 | 80 |
| Lead Frame Material | Cu | Cu | Cu Roughened | Cu Roughened | Cu | Cu |
| Lead Finish | NiPdAu | NiPdAu | NiPdAu | NiPdAu | NiPdAu | NiPdAu |
| Lead Pitch (mils) | 31.5 | 19.68 | 15.75 | 19.68 | 19.68 | 19.68 |
| Mount Compound | 4206201 | 4042504 | 4208458 | 4042504 | 4208458 | 4042504 |
| Mold Compound | 4211649 | 4211649 | 4211649 | 4211649 | 4211649 | 4211649 |
| Bond Wire Composition | Cu | Cu | Au | Cu | Cu | Au |
| Bond Wire Diameter (mils) | 1.98 | 0.96 | 0.8 | 0.8 | 0.8; 1.98 | 0.96 |
| Flammability Rating | UL 94 V-0 | UL 94 V-0 | UL 94 V-0 | UL 94 V-0 | UL 94 V-0 | UL 94 V-0 |

- QBS: Qual By Similarity
- Qual Device qualified at LEVEL4-260CG: D610A3BPYP225
- Qual Devices qualified at LEVEL3-260CG: 6964BDC0PAPG4, ADS58C20IPFP, SLK2511CPZP, TLK2201BIRCP, TUSB9260PVP, TVP70025IPZPR, TAS5707PHP, TVP5145PFP, TAS5631PHDR
- Qual Device qualified at LEVEL2-260CG: DRV593VFP
- Devices contain multiple dies: TAS5707PHP, TVP5145PFP

Qualification Results

Data Displayed as: Number of lots / Total sample size / Total failed

| Type | Test Name / Condition | Duration | Qual Device: 6964BDC0PAPG4 | Qual Device: ADS58C20IPFP | Qual Device: D610A3BPYP225 | Qual Device: DRV593VFP_MSL1 | Qual Device: DRV593VFP_MSL2 | Qual Device: SLK2511CPZP |
|------|--|------------------------------|-------------------------------|------------------------------|-------------------------------|--------------------------------|--------------------------------|-----------------------------|
| HAST | Biased HAST, 130C/85%RH | 96 Hours | - | - | - | - | - | - |
| THB | Biased Temperature and Humidity, 85C/85%RH | 1000 Hours | - | - | 1/71/0 | - | - | - |
| AC | Autoclave 121C | 96 Hours | 3/231/0 | 6/600/0 | 3/231/0 | 1/77/0 | 2/154/0 | 12/924/0 |
| TC | Temperature Cycle, -65/+150C | 500 Cycles | 3/231/0 | 6/600/0 | 3/231/0 | 1/77/0 | 2/154/0 | 12/924/0 |
| HTSL | High Temp Storage Bake 170C | 420 Hours | - | 6/600/0 | 3/231/0 | 1/77/0 | 2/154/0 | 12/924/0 |
| ED | Electrical Characterization | Per Datasheet Parameters | - | - | - | - | - | - |
| MQ | Manufacturability | (per mfg Site specification) | Pass | Pass | Pass | - | Pass | Pass |

| Type | Test Name / Condition | Duration | Qual Device: TAS5631PHDR | Qual Device: TLK2201BIRCP | Qual Device: TUSB9260PVP | Qual Device: TVP70025IPZPR | Qual Device: TAS5707PHP | Qual Device: TVP5145PFP |
|------|--|------------------------------|-----------------------------|------------------------------|-----------------------------|-------------------------------|----------------------------|----------------------------|
| HAST | Biased HAST, 130C/85%RH | 96 Hours | - | - | - | - | 3/231/0 | - |
| THB | Biased Temperature and Humidity, 85C/85%RH | 1000 Hours | - | - | - | - | - | - |
| AC | Autoclave 121C | 96 Hours | - | 3/231/0 | 3/300/0 | 3/231/0 | 3/300/0 | 3/231/0 |
| TC | Temperature Cycle, -65/+150C | 500 Cycles | - | 3/243/0 | 3/300/0 | 3/240/0 | 3/300/0 | 3/231/0 |
| HTSL | High Temp Storage Bake 170C | 420 Hours | - | 3/231/0 | 3/245/0 | - | - | 3/231/0 |
| ED | Electrical Characterization | Per Datasheet Parameters | - | - | Pass | - | - | - |
| MQ | Manufacturability | (per mfg Site specification) | Pass | Pass | Pass | Pass | Pass | Pass |

- Preconditioning was performed for Autoclave, Unbiased HAST, THB/Biased HAST, Temperature Cycle, Thermal Shock, and HTSL, as applicable

- The following are equivalent HTOL options based on an activation energy of 0.7eV : 125C/1k Hours, 140C/480 Hours, 150C/300 Hours, and 155C/240 Hours

- The following are equivalent HTSL options based on an activation energy of 0.7eV : 150C/1k Hours, and 170C/420 Hours

- The following are equivalent Temp Cycle options per JESD47 : -55C/125C/700 Cycles and -65C/150C/500 Cycles
Quality and Environmental data is available at TI's external Web site: <http://www.ti.com/>

Green/Pb-free Status:

Qualified Pb-Free(SMT) and Green

TI Qualification ID: 20120920-67421

For questions regarding this notice, e-mails can be sent to the regional contacts shown below or your local Field Sales Representative.

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