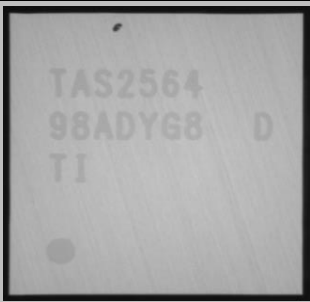


supplier	Headquarter area (Which Country)	Part Number	Level1 name	Level1 name description	Level1 supplier name	Level1 Country/area	Level1 location (City)
TI	United States	TAS2564YBGR	Shipping&Warehouse	PDC	TI PDC	China	Shanghai
			Level2 name	Level2 name description	Level2 supplier name	Level2 Country/area	Level2 location (City)
			Test	Test	TI CDAT	China	Chengdu
			Level3 name	Level3 name description	Level3 supplier name	Level3 Country/area	Level3 location (City)
			Assembly	Assembly	TI CDAT	China	Chengdu
			Level4 name	Level4 name description	Level4 supplier name	Level4 Country/area	Level4 location (City)
			wafer	FAB	TI DMOS6	United States	Dallas

TI Part	*拆分部位名称 Disassembly Unit/component description	*均质材料名称 Homogeneous Material Name.	物质名称 Substance Name	*CAS No.	*物质重量 Substance Mass. (mg)	Content Rate(%) (均质材料 中的含量)
TAS2564YBGR	Back Side Coating	Other Inorganic Materials	Silica			
		Other Plastics and Rubber	Carbon Black			
		Other Plastics and Rubber	Imidazole Derivative			
		Thermoplastics	Epoxy			
	Semiconductor Device	Ceramics / Glass	Doped Silicon			
	Solder Bump	Copper and Its Alloys	Copper			
		Other Nonferrous Metals and Alloys	Tin			
		Precious Metals	Silver			

器件信息 Component information		调查结果 Investigation Result
器件俯视图、底视图 Top view photo、bottom view photo		 
焊球材料成分及含量 Ball Compositions and ratio		SAC405
		其它 Other(please specify):
焊球植球前的球粒直径(μm) Ball Diameter(μm) before ball attachment		0.225MM
是否背胶处理 Back side laminate		否 No
WLCSP 器件是否有 RDL 层(再分布引线层) is there RDL layer in WLCSP?		是 Yes
封装遵循的标准 Package standard		EIA
		其它 other(please specify):
元器件重量 Weight of component (g)		5.2mg
元件重量/贴片吸取面积是否≤0.06g/mm2 Weight/ available P&P area≤0.06g/mm2		是 Yes
		如果不满足，请给出具体值: If not, give the actual data:
极性标识 polarity point	器件上表面 MARK 信息是否有方向性标志点（例如“1”引脚标志）？ Is there polarity point on the top side of component?	是 Yes

	器件表面方向性标志点是否唯一?(如果不唯一请附图说明标志点与引脚对应关系。) Is the polarity point sole? (if not, please indicate the correspondence between the polarity point and balls)	是 Yes
	器件资料是否明确标注引脚位置号? Is there any specific location number of terminals in component specification?	是 Yes
	方向性器件在 AOI 上实际确认, 需要设备能识别器件极性 component orientation can be identified by AOI?	是 Yes
下面所列物质的重量比是否满足 RoHS 要求? (请参考此调查表的“sheet7 RoHS Compliant”) 铅、镉、汞、六价铬、多溴联苯、多溴二苯醚 Are matters RoHS compliant listed below? (please refer to "sheet7 RoHS Compliant" in this file) Lead, Cd, Hg, Cr VI, PBB, PBDE Lead-free		是 Yes
是否无卤 Halogen-free		是 Yes
存储 Storage	相对湿度 (%) Relative humidity (%)	$\geq 20\% \& \leq 70\%$
		其它 other (please specify):
	温度 (°C) Temperature (°C)	$\geq -10^{\circ}\text{C} \& \leq 35^{\circ}\text{C}$
		其它 other (please specify):
	可存储期限 (月) Maximum storage time (month)	24
		其它 other (please specify):
表贴元器件包装类型 Packaging type		卷带包装 tape and reel
		其它 other (please specify):
器件 pin1 脚标识在包装中的位置 (见右图 2) Position of component pin 1 in packing (see right figure 2)		figure②
料带或 Tray 盘高度 (H), 见右图 3 Packaging height(H), see right figure 3		0.7mm

包装宽度 (W), 见右图 3 Packaging width(W), see right figure 3	8mm
卷带器件料带步距:P1 component pitch:P1	4mm
防静电包装 ESD packaging	是 Yes
能否满足：料带包装中侧翻率 $\leq 0.05\%$ Rollover rate $\leq 0.05\%$ in packing	是 Yes
能否承受：托盘包装 125℃/24 小时的烘烤条件 tray packing Baking conditions: 125℃@24h	是 Yes
能否承受：卷带包装 40℃/192 小时的烘烤条件 reel tape packing Baking conditions: 40℃@192h	是 Yes
卷带包装是否符合 EIA-481 标准? can reel tape packing meet EIA-481 standard?	EIA
	其它 other(please specify):
潮湿敏感等级 MSL	1
潮敏等级在 2 级及 2 级以上，潮敏防护必须包含：潮敏指示卡、干燥剂、潮敏等级标识等 Moisture sensitive level at level 2 and level 2 above, moisture sensitive protection must include: moisture sensitive indicator card, desiccant, moisture sensitive grade logo	是 Yes
受潮后的烘烤要求是否满足 J-STD-033b.1 Baking requirement if moisture	是 Yes
是否满足：能承受的回流焊接次数 ≥ 3 次 Maximum soldering times ≥ 3	是 Yes
	如无法满足，请填写实际规格: If not, please specify:

针对表贴器件，其耐温性是否满足 J-STD-020D 要求？（重点关注耐温性和回流曲线分级两部分，即表 4-1，4-2 和 5-2，请参考此调查表“sheet6 J-STD-020D”） Can heat resistance of SMT components meet JSTD020D. (should focus on the classification of temperature and reflow profiles, that is table 4-1, 4-2 and 5-2, please refer to sheet6 J-STD-020D in this file)	是 Yes
是否满足：表贴器件中心能承受的贴片压力$\geq 2\text{N}$ Maximum pick-and-place pressure (N)	是 Yes
器件的焊接加工和设计要求是否已经全部写入器件规格书？ Whether the welding process and design requirements of component have all written to the component specifications	是 Yes 如有设计要求，请在此说明
器件规格书中提供的焊盘及钢网设计（包括钢网厚度）是否为强制要求？ Whether Pad & stencil design as Mandatory requirements in component spec?	推荐 recommended
器件对回流焊升温斜率和降温斜率是否有特殊要求？ 客户采用 J-STD-002D 标准 Whether the device has special requirements for the reflow temperature ramp-up rata and ramp-down rata? Customer follow J-STD-002 standard	无 No 如有其他特殊要求，请在此说明
器件规格书中有无其他强制要求？ Are there other mandatory requirements in component spec?	无 No 如有其他强制要求，请在此说明
可焊性测试除使用助焊剂和锡膏按照下列要求执行外，其余条件及方法根据 J-STD-002D 标准执行，并提供测试报告。 待测试样品需经过蒸汽老化 8 小时预处理，再做可焊性测试。 1.焊料温度 可焊性检测时焊料的温度维持在 $245^{\circ}\text{C} \pm 5^{\circ}\text{C}$。 2.锡膏 无铅测试锡膏成分应该为 Sn96.5/Ag3.0/Cu0.5 (SAC305)。锡膏采用 ROL0 型，4 号粉或者 5 号粉。 3.焊剂 可焊性测试采用非活性天然松香基液体焊剂，型号为 ROL0。 4.针对 BGA 封装，请采用陶瓷载板法进行焊球可焊性测试，即在陶瓷载板上按照焊球矩阵印锡并回流焊接 BGA，之后将 BGA 整个起拔，陶瓷载板上无锡膏残留即可焊性满足要求。	是 Yes

Solderability shall be tested per J-STD-002D and the report must be offered, some special demands are required as below.
The sample to be tested shall be pretreated with steam for 8 hours before solderability testing.

- soldering temperature
245°C±5 °C for lead-free
- solder paste
the composition of solder paste must be Sn96.5/Ag3.0/Cu0.5 (SAC305) for lead-free. The type of solder paste must be ROL0, type 4 or 5.
- flux
the flux must be a non-active rosin flux, type ROL0.
- BGA package
use ceramic substrate to test. Print the solder paste onto the test substrate, follow the solder ball pattern, and reflow the samples. After reflow, remove components from substrate. The solderability can meet requirement if there is no solder paste remain on substrate.

添加报告
please add test report here

物料编码 Part number	供应商名称 Supplier Name	物料信息 Info of material				最小包装信息 Info of inner packing					
		包装方式 Packing type	料带宽度 Width of tape (MM)	开孔方式 Feeding hole type	物料步距 Feeding step (MM)	内装数量 Qty	毛重 Gross weight (KG)	包装件长 Length (MM)	包装件宽 Width (MM)	包装件高 Height (MM)	包装材质 Material
TAS2564YBGR	TI	tape reel	8.0		4.0	3000		182	182	20	

customer item (客户编码)	vendor Name (供应商名称)	Part No. (器件型号)	Marking Rule (丝印规则)
	TI	TAS2564YBGR	丝印 TAS2564 代表型号， 通过识别本体丝印 TAS2564 可判定物料正确

```
+-----+
! TAS2564      !      TI = TI LETTERS
! YMLLLS #    !      YM = YEAR MONTH DATE CODE
! TI          !      LLL = LOT TRACE CODE
!            !      S = ASSEMBLY SITE CODE PER QSS 005-120,
!            !      use "I" for TI Clark, use "8" for CDAT
!            !      # = FLOW DESIGNATOR, use "A" for RFAB-Clark
+-----+      !      use "B" for RFAB-CDAT
0 - PIN A1      !      use "C" for DM6-Clark
(FILLED SOLID)  !      use "D" for DM6-CDAT
```



类别 Category	需求项目 Requirement Items	供应商反馈 Vendor 's Feedback
基本信息 General Information	供应商名称 Supplier Name	TI
	器件型号 Device Part Number	TAS2564YBGR
晶圆信息 Wafer related Information	晶圆代工厂信息，工艺类别和工艺节点 Wafer fab information, process type and node	DMOS6 0.15UM LBC9
	芯片尺寸（长*宽*高） Die Size (Length*Width*Height)	2.4x2.4x0.5mm
	复杂度： To get failure rate per SR332 Complexity (transistor or gate number): To get failure rate per SR332	NA
	该晶圆工艺已经使用多长时间 Number of year/months since this wafer process was qualified and released to production.	> 3 YEARS
	有多少个产品已经使用了该晶圆工艺 How many of your products have been applied with this wafer process?	>50
	客户已使用的同晶圆族器件（同工艺技术、同工厂） Is there any part from the same wafer process family have been used in customer? If yes, please list the part number.	YES
	晶圆工艺制程能力（SPC） Wafer Process Capability(SPC)	CPK>1.67
	是否存在 Cpk<1.33 的制程监控参数？如有，请列出该监控参数及其改进计划。 Is there any wafer process CPK<1.33? If yes, please list it and provide the improvement plan.	NO
	芯片 ID Chip ID:Do you have chip ID or die ID for this device?	NO
封装信息 Assembly related Information	封装代工厂，封装类型 Assembly Factory, Package type	CDAT WLCSP
	封装尺寸（长*宽*高） Package Size (Length*Width*Height)	2.4x2.4x0.5mm

焊球/引脚间距 Ball/Lead pitch		0.4MM
客户已使用的同封装族器件（同封装技术、同封装厂） Is there any part from the same package family have been used in customer? If yes, please list the part number.		YES
划片工艺 Wafer cutting method		Laser dicing
键合工艺 Wire Bonding (Only for Wire Bonding Package)	键合线成分 Wire composition	NA
	键合线直径 Wire diameter	NA
BGA 基板工艺信息 Substrate Information (Only for BGA package)	基板供应商 Substrate vendor	NA
	基板工艺 Substrate technology	NA
	基板金属层数 Substrate metal layers	NA
BGA 倒装内焊球制作工艺 Flip Chip Bumping, for BGA package (Only for Flipchip Package)	内焊球供应商 Bumping vendor	NA
	内焊球工艺 Bumping Technology	NA
	内焊球材料成分 Bump material composition	NA
	内焊球直径和间距 Bump diameter,Bump pitch	NA
	内焊球的空洞指标 The Specification/criteria of bump void	NA
	焊球电迁移测试结果 Bump Electromigration test result, required for SnPb bump only	NA
BGA 倒装底部填充工艺 Flip Chip Underfill, for BGA package (Only for Flipchip Package)	Underfill 材料型号, Tg 温度(玻璃化转变温度) Underfill Part Number, The glass transition temperature of	NA

		Underfill	
		底部填充的空洞指标 The Specification/criteria of underfill void	NA
	封装工艺制程能力（SPC） Assembly Process Capability(SPC)		CPK $\geq$ 1.67
	是否存在 Cpk<1.33 的制程监控参数？如有，请列出该监控参数及其改进计划。 Is there any assembly process CPK<1.33? If yes, please list it and provide the improvement plan.		NO
器件基本规格 General Specification	工作寿命 Operating Lifetime at max Tj		yes
	非易失存储器擦写次数 Nonvolatile memory erase times		N/A
	工作温度范围 Range of Operation Temperature (Ta, Tj or Tc)		-40~85C
	存储温度范围 Storage Temperature range		-65 ~ 150C
	存储期限 Storage limit		2years
	最大结温 Max.Junctioin Temperature		150
	最大功耗 Max. Power Dissipation		
	早期失效率 EFR, Early Failure Rate, FIT		10FIT
	长期失效率 IFR, Intrinsic Failure Rate, FIT		0.1FIT@60%CL
	器件反复上下电次数规格 The number of power cycle which component can endure		NA
	潮湿敏感等级 MSL, Moisture Sensitive Level		MSL 1
	封装热阻 Theta ja, jc and jb	Θ_{ja}	55.3
		Θ_{jc}	0.3

		Θjb	11.6
	ESD (HBM、CDM, for all pin)	HBM	2000
		CDM	500
	抗闩锁能力 Latch-Up (At max. Ambient Temperature)		YES
软失效相关 Soft Error related	RAM 大小 RAM size		NA
	软失效率(SER, 仅限于有 RAM 结构器件) Soft Error Rate, Only for RAM & Flip Flop structure device	with ECC	NA
		without ECC	NA
	是否使用超低 α 放射性的晶圆和封装材料, 如果不是, 请列出各种辐射材料及其辐射强度 Does ultra-low-alpha (<0.002 cph/cm2) material have been used? If No, pls list the emission material and its emmission rate(counts per hour per cm^2). [Only for RAM & Flip Flop structure device]		NA
测试相关 Testing related	Test Factory		CDAT
	电测试故障覆盖率(For Stuck at, Transition fault, Path-delay fault respectively) ATE fault coverage rate(For Stuck at, Transition fault, Path-delay fault respectively)		YES
			YES
			YES
			YES
			YES
	漏电流测试门限 leakage test limits		Can't provide
机械应力相关 Mechanical stress related	短期机械压力规格 Transient compressive load limit: To measure of BGA crushing potential or die crack potential;		MEET REQUIREMENT

	长期机械压力规格 static compressive load force limit: To measure of BGA crushing potential or die crack potential;	MEET REQUIREMENT
	短期弯曲应变规格 Short-term Bending Strain (ue)	MEET REQUIREMENT
	长期弯曲应变规格 Long-term Bending Strain (ue)	MEET REQUIREMENT
	三点弯 Three dot bend (Only For WLCSP)	MEET REQUIREMENT
	盖子扭力 lid toeque limit (Only for Lid Package)	NA
	盖子拉力 lid pull limit (Only for Lid Package)	NA
	表面粘接能力 TIM adhesive strength	NA
可靠性认证 Reliability Qualification	新工艺或新设计器件的可靠性或寿命极限测试数据 If the chip is new process or new design, And some Lifetime limit test(Test to fail or beyond JEDEC standard) had been down. Please specify the test condition and result detailly.	NO
	晶圆可靠性认证报告 Wafer reliability Qualification Report, including: TDDb, HCI, NBTI, PBTI, EM, SM .etc	YES
	封装可靠性认证报告 Package Qualification Report, including: PC, THB, HAST, UHAST, HTSL, TC, BLTC, DT, Bend, PDT, PVT .etc	YES
		YES
		YES
		YES
		YES
		YES
		YES
		N/A
		N/A
		N/A
	器件可靠性认证报告 Device Qualification Report, including: ELFR, HTOL, LTOL,	YES
		YES

	ASER, SSER, ESD-HBM, ESD-CDM, LU .etc	N/A
		N/A
		N/A
		YES
		YES
		YES
	器件量产后进行可靠性试验监控，请提供最新的可靠性监控报告 The device should be done reliability monitoring. Please provide the latest Reliability Monitoring Report, including: PC, THB, HAST, UHAST, TC, HTSL, HTOL .etc	YES
	含 RAM 结构的器件的软失效认证报告 Soft Error Qualification Report (Only for RAM & Flip Flop structure device)	N/A
	性能报告 Characterization report, follow JESD86	Can't provide
	建议或要求 The suggestion and requirement	N/A