



**Giantec Industry  
EEPROM Monitor  
Qualification  
Report  
(2021.Q4)**

**Table 1. Product Information**

<b>General Information</b>			
<b>Product description</b>	<b>EEPROM devices use the standard IIC or SPI bus communications.</b>		
<b>Wafer fabrication location</b>	<b>Shanghai, China</b>		
<b>Electrical Wafer Sort test plant location</b>	<b>Shanghai, China</b>		
<b>Silicon process technology</b>	<b>Part Name</b>	<b>Lot No/Date code</b>	<b>Remark</b>
<b>0.13um</b>	GT24P64B	DP8238K1L1/ 2130	SOP8
<b>0.18um</b>	GT25C128A	DP116806L1/ 2138	SOP8
<b>0.35um</b>	GT24C16B	BP1873K1K1/ 2143	SOP8

**Table 2. Package Description**

Package Description	Assembly Plant Location	Final Test Plant Location
SOP8	Kunshan, China	Kunshan, China
TSSOP8	Kunshan, China	Kunshan, China
UDFN	Kunshan, China	Kunshan, China

Reliability / Qualification assessment: PASS

## 1 Reliability evaluation overview

### 1.1 Objectives

This document serves for the qualification of the Giantec EEPROM product used silicon process technology reliability monitor evaluation.

### 1.2 Device characteristics

They are electrically erasable programmable memory (EEPROM) devices based on advanced true EEPROM technology.

The devices use the standard 2-wire interface for communications.

Refer to the product datasheet for more details.

## 2 Reliability Test Results

This section contains a general description of the reliability evaluation strategy.

The named products are qualified using the standard Giantec procedures for quality and reliability.

## 2.1 Reliability test plan and result summary

The reliability test plan and the result summary are presented as follows :

- In *Table 3* for Device -Oriented tests  
(package :SOP8)
- In *Table 4* for Package-Oriented tests  
(package :SOP8、TSSOP8、UDFN)

**Table 3. Device – Oriented reliability test plan and result summary**

Test	Test short description					
	Method	Conditions	Sample size	No. of lots	Duration	Results fail / sample size
EDR	<b>Endurance</b>					
	JESD22-A117	1KK E/W cycles at 25°C	128	1	N/A	0/128
	<b>High temperature operating life</b>					
	JESD22-A108	then HTOL 125°C,6V	77	1	100 hrs	0/77
	<b>Data retention after endurance</b>					
	JESD22-A117	1KK E/W cycles at 25°C;then HTSL 150°C	128	1	1000 hrs	0/128
ESD HBM	<b>Electrostatic discharge (human body model)</b>					
	JEDEC-JS-001-2017	C=100Pf, R=1500 Ω	3	1	N/A	Class-3B

<b>ESD</b>	<b>Electrostatic discharge (machine model)</b>					
	<b>MM</b>	JESD22-A115C	C=200Pf, R=0 Ω	3	1	N/A
<b>ESD</b>	<b>Electrostatic discharge (charged device model)</b>					
	<b>CDM</b>	JESD22-C101	R=1ohm Field induced changing method	3	1	N/A
<b>LU</b>	<b>Latch – up (current injection and overvoltage stress)</b>					
	JESD78	Room Temperature		3	1	N/A

**Table 4. Package –Oriented reliability test plan and result summary**

<b>Test</b>	<b>Test short description</b>					
	<b>Method</b>	<b>Conditions</b>	<b>Sample size</b>	<b>No. of lots</b>	<b>Duration</b>	<b>Results fail / sample size</b>
<b>PC</b>	<b>Preconditioning : moisture sensitivity level 1</b>					
	J-STD-020	MSL1	308	1	N/A	0/308
<b>TC</b>	<b>Temperature cycling</b>					
	JESD22-A104	-65°C/+150°C	77	1	1000 cycles	0/77
<b>AC</b>	<b>Autoclave (pressure pot)</b>					

	JESD22-A102	121°C/ 100%RH, 2ATM, 168h	77	1	168 hrs	0/77
<b>UFAST</b>	<b>Unbiased HAST</b>					
	JESD22-A118	130°C/ 85%RH, 2ATM, 96h,	77	1	96 hrs	0/77
<b>HAST</b>	<b>Biased HAST</b>					
	JESD22-A110	Vmax, 130°C/ 85%RH, 2ATM, 96h,	77	1	96 hrs	0/77
<b>HTSL</b>	<b>High temperature storage life</b>					
	JESD22-A103	150°C, 1000h	45	1	1000 hrs	0/45

## Revision History

Revision	Monitor Date	Description
V0	Q4. 2021	EEPROM Monitor Qual

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