

## CIR-W4SUSV2104G 512MB 2133MHz 4GB

DDR4 WIDE TEMP. SO-DIMM 2133MHz 4GB

### Description

This specification defines the electrical and mechanical requirements for 260 pin, 1.2 V (VDD), Double Data Rate, Synchronous DRAM Dual In-Line Memory Modules (DDR4 SDRAM SO-DIMM). This DDR4 SO-DIMM is intended for use as main memory when installed in PCs, laptops and other systems.

Reference design examples are included which provide an initial basis for DDR4 SO-DIMM designs.

Modifications to these reference designs may be required to meet all system timing, signal integrity and thermal requirements for DDR4-2133 support. All DDR4 SO-DIMM implementations must use simulations and lab verification to ensure proper timing requirement and signal integrity in the design.

### Specifications

Density	4GB
Pin Count	260pin
Type	Unbuffered
Dimensions	69.60mm x 30.00mm
ECC	Non-ECC
Component Config	512M x 8 bit
Data Rate	2133 MHz
CAS Latency	15
Voltage	1.2V
PCB Layers	8
Operating Temp.(TCASE)	-40°C~+85°C
Module Ranks	Single Rank

### Features

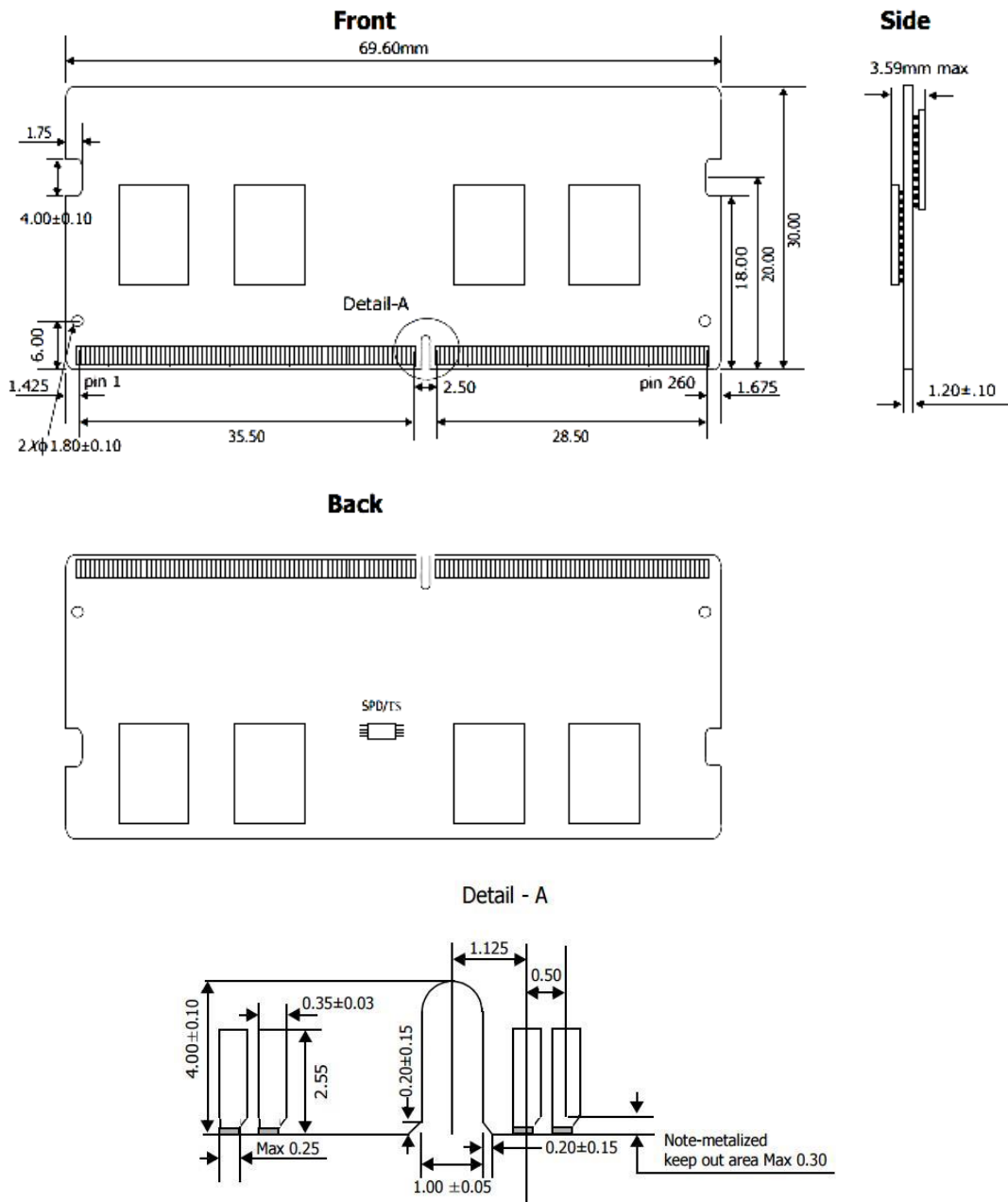
- JEDEC standard
- VDD=VDDQ = 1.2V±0.06V (1.14V~1.26V)
- Programmable CAS Latency(posted CAS): 11,12,13,14,15
- 8-bit pre-fetch
- 16 Banks (4 Bank Groups)
- Internal(self) calibration : Internal self calibration through ZQ pin
- On Die Termination using ODT pin
- Average Refresh Period  
- 7.8us ( TCASE ≤ 85°C )
- Asynchronous Reset pin supported
- Burst Length: 8 or BC4
- POD (Pseudo Open Drain) interface for data input/output
- Serial presence detect (SPD)
- All of products are Halogen-free
- All of Lead-Free products are compliant for RoHS

### Speed Grade

Frequency Grade	Data Transfer Rate	CAS Latency Support					CL-tRCD-tRP
		CL11	CL12	CL13	CL14	CL15	
DDR4-2133	PC4-17000	1600	1600	1866	1866	2133	15-15-15

### Package Dimensions

Unit: mm



Tolerances : ± 0.15mm unless otherwise specified