

Differences between the FM24CL64 and FM24CL64B

Compares 64Kb 3V I²C F-RAM Devices



DESCRIPTION

This document points out the differences between the FM24CL64 and FM24CL64B devices. The two devices are identical in terms of pinout, packages, read/write functionality, WP pin operation, and address pin functionality.

DROP-IN REPLACEMENT OR NOT

From a software point of view, the two devices are identical. From a hardware point of view, the key difference between the two devices is the FM24CL64B's slightly higher standby current. The summary table below highlights the differences.

COMPATIBILITY CHART

FM24CL64 Feature or Spec is FM24CL64B compatible?
Packages		Yes
Pinout		Yes
Temperature Range		Yes
Operating Voltage		Yes
Operating Current		Yes
Standby Current		No
R/W Function		Yes
Timing/Freq		Yes
Data Retention		Yes*
Endurance		Yes*

* See table on next page.

DETAILED COMPARISON TABLE

Differences are highlighted in yellow.

	FM24CL64	FM24CL64B	Comments
Package Types	SOIC8, DFN8	SOIC8, DFN8	Same "green" SOIC package, same DFN package (4x4.5mm)
Package Outlines	SOIC-8	SOIC-8	Same outline and board footprint
Pinout	-	-	Same
Temperature Range	-40C to +85C	-40C to +85C	Same
Operating Voltage Range	2.7 to 3.65V	2.7 to 3.65V	Same
Active Supply Current	70 μ A @ 100kHz 400 μ A @ 1MHz	100 μ A @ 100kHz 300 μ A @ 1MHz	The 24CL64B-G offers lower active current at 1MHz.
Standby Current	1 μ A	6 μ A (max) 3 μ A (typ)	FM24CL64B-G has higher I _{SB} , typical is 3 μ A.
Read/Write Function	-	-	Same 2-byte addressing, same Slave IDs, same Device Select bits.
Clock Freq	1 MHz	1 MHz	Same
Data Retention *	45 yrs (+85°C)	38 yrs (+75°C)	Nearly the same
Endurance *	"Unlimited"	1E+14	FM24CL64B-G is virtually unlimited at 1MHz (1700 yrs for a 64-byte loop)
OTHER			
V_{DD} Rise/Fall Time	-	30 μ s/V, 100 μ s/V	Added power ramp specs to 24CL64B
t_{PU} Power Up Time	-	10 ms	Added first access timing spec to 24CL64B
V_{IH} (max)	V _{DD} +0.5V	V _{DD} +0.3V	