

OKI ELECTRONICS (HONG KONG) LTD.

OLMS64K SERIES 4-BITS LOW POWER MCU CHECK LIST

Part No.: MSM64160D

The function of this form is just for reminding the customer to (i) avoid commonly-made programming mistakes and, (ii) notice frequently overlooked or misunderstood hardware features of the caption MCU. The customer is required to fill in this form and submit it with all the other necessary files and documents when the code is released. The actual masking of the MCU is based on the code released by the customer - it is NOT based on the information given in this form. OKI and her distributors are not held liable for any discrepancies between the released code and the information given below.

(1) PACKAGE

ONLY chip form is available

(2) VOLTAGE SUPPLY

1.5V (Voltage Range = 1.25V - 1.7V)

3.0V (Voltage Range = 2.2 - 3.5V when duty cycle=1/2)

3.0V (Voltage Range = 2.0 - 3.5V when duty cycle=1/3 or 1/4)

(3) CLOCK GENERATION CIRCUIT (Mask Option)

With built-in capacitor C_G

(4) USABLE ROM SIZE

1504 bytes

(5) INITIALIZATION OF RAM

Content of RAM area are random after power up – initialization must be done by software

(6) BATTERY CHECK (BC) & CONSTANT VOLTAGE SUPPLY FOR LOGIC CIRCUIT

To save power, enable ECMP only when battery check is being carried out

The value of Vrb in the EASE64162/164 is different from that of the real chip

In the real chip, VDD is the ref. voltage, while VSS is the ref voltage in the emulator, therefore ...

In the real chip : when CMPF= 0, battery level is **NORMAL** [V(P0.3) < Vrb]; as CMPF= 1, battery level is **LOW** [V(P0.3) >Vrb]

In the emulator of version lower than 3.03 : when CMPF= 1, battery level is **NORMAL** [V(P0.3) >Vrb]; as CMPF= 0, battery level is **LOW** [V(P0.3) < Vrb]

In the emulator of version 3.03 or above : when CMPF= 0, battery level is **NORMAL** [V(P0.3) >Vrb]; as CMPF= 1, battery level is **LOW** [V(P0.3) < Vrb]

Set BUPF=0 to save power, but set BUPF=1 when power supply may suffer from fluctuation

(7) 4.8 DIGIT DECADE COUNTER FOR A/D CONVERSION

Never write invalid data (i.e. any no. > 9) to any digit of the decade counter CNTA

(8) IS LCD DUTY CYCLE DEFINED IN MASK OPTION SAME AS THE SETTING OF DSPCON?

(*Note : To ensure normal operation, the setting of DSPCON must match with the duty cycle defined in the mask option)

1/2

1/3

1/4

(9) VOLTAGE REGULATOR FOR LCD DRIVER (Mask Options)

Select voltage regulator for LCD driver

Non-regulated LCD driver

(10) LCD OPERATING VOLTAGE

Voltage regulated LCD driver ----- 3.6V (Duty Cycle = 1/4 or 1/3) or 2.4V (Duty Cycle = 1/2)

Non-regulated LCD driver ---- 4.5V (Duty Cycle = 1/4 or 1/3) or 3.0V (Duty Cycle = 1/2)

(11) L16-L23 OR OUTPUT PORTS (Mask Option – see Chapter 13.6 of ‘MSM64162 User Manual’)

L16 L17 L18 L19 L20 L21 L22 L23 (*Note : Mark the output ports)

(12) LCD DRIVER MASK OPTIONS

In the real chip, any bit of any DSPRs undefined in the mask option cannot be read/written as general data RAM.

(13) SKIP INSTRUCTION

When SKIP condition is satisfied, a no. of idle machine cycles, equal to the no. of machine cycle(s) of the skipped instruction, will be inserted after the instruction which tests and set the SKIP condition.

We, _____, hereby confirm the correctness of information given in this completed form.

Signature & Company Chop

Date