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RENESAS TECHNICAL UPDATE

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Product Category	MPU/MCU		Document No.	TN-16C-A187A/E	Rev.	1.00
Title	M16C/62P Group, M16C/6K Group, M16C/6N Group, M16C/30P Group, M16C/29 Group, M16C/28 Group, M16C/26A Group, M16C/64 Group Note on Supply Voltage Fluctuation		Information Category	Technical Notification		
Applicable Product	See below	Lot No.	Reference Document			

When developing MCU application products, the customer should take care with events like power supply noise in their product and/or environment. The following is a general note pertaining to supply voltage variations due to events like power supply noise.

1. Applicable products

    M16C/62P Group, M16C/6K Group (M306K9FCLRP, M306KAFCLRP), M16C/6N Group,

    M16C/30P Group, M16C/29 Group, M16C/28 Group, M16C/26A Group, M16C/64 Group
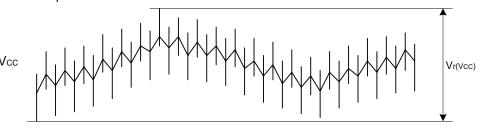
2. Note

    After reset is deasserted, the supply voltage applied to the VCC pin [1] must meet either or both the allowable ripple voltage $V_{r(VCC)}$ or ripple voltage falling gradient $dV_{r(VCC)}/dt$ shown in the figure below.

    Note 1: VCC1 pin in the M16C/62P Group, M16C/6N Group, M16C/30P Group, and M16C/64 Group.

Symbol	Parameter		Standard			Unit
			Min.	Typ.	Max.	
$V_{r(VCC)}$	Allowable ripple voltage				0.1Vcc	V
$dV_{r(VCC)}/dt$	Ripple voltage falling gradient	A			10	V/ms
		B			0.3	V/ms

A: M16C/62P Group, M16C/6K Group (M306K9FCLRP, M306KAFCLRP), M16C/6N Group,
   M16C/30P Group, M16C/29 Group, M16C/28 Group, M16C/26A Group
B: M16C/64 Group

To prevent operation error due to noise, connect a bypass capacitor (approximately 0.1 μF) across pins VCC and VSS [2] using the shortest and thickest possible wiring.

    Note 2: Across pins VCC1 and VSS, and pins VCC2 and VSS in the M16C/62P Group, M16C/6N Group, M16C/30P

           Group, and M16C/64 Group.

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