

RENESAS TECHNICAL UPDATE

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Product Category	MPU/MCU		Document No.	TN-RA*-A0070A/E	Rev.	1.00
Title	RA6M4 Group, RA4M3 Group, RA6M5 Group, correction of Thermal Resistance Value		Information Category	Technical Notification		
Applicable Product	RA6M4 Group RA4M3 Group RA6M5 Group	Lot No.	Reference Document	RA6M4 Group User's Manual Hardware Rev.1.20 RA4M3 Group User's Manual Hardware Rev.1.30 RA6M5 Group User's Manual Hardware Rev.1.20		
		All				

The value of thermal resistance listed in the electrical characteristics are corrected.

(RA6M4/RA4M3)

[Before]

Table 50.11/Table 47.11 Thermal Resistance

Parameter	Package	Symbol	Value*1	Unit	Test conditions
Thermal Resistance	64-pin LQFP (PLQP0064KB-C)	θ_{ja}	38.0	$^{\circ}\text{C}/\text{W}$	JESD 51-2 and 51-7 compliant
	100-pin LQFP (PLQP0100KB-B)		35.0		
	144-pin LQFP (PLQP0144KA-B)		33.0		
	64-pin BGA (PLBG0064JC-A)		33.0		
	144-pin BGA (PLBG0144KB-A)		40.2		
	64-pin LQFP (PLQP0064KB-C)	Ψ_{jt}	0.80	$^{\circ}\text{C}/\text{W}$	JESD 51-2 and 51-7 compliant
	100-pin LQFP (PLQP0100KB-B)		0.76		
	144-pin LQFP (PLQP0144KA-B)		0.63		
	64-pin BGA (PLBG0064JC-A)		0.61		
	144-pin BGA (PLBG0144KB-A)		0.66		

[After]

Table 50.11/Table 47.11 Thermal Resistance

Parameter	Package	Symbol	Value*1	Unit	Test conditions
Thermal Resistance	64-pin LQFP (PLQP0064KB-C)	θ_{ja}	38.0	$^{\circ}\text{C}/\text{W}$	JESD 51-2 and 51-7 compliant
	100-pin LQFP (PLQP0100KB-B)		35.0		
	144-pin LQFP (PLQP0144KA-B)		33.0		
	64-pin BGA (PLBG0064JC-A)		38.0		
	144-pin BGA (PLBG0144KB-A)		40.5		
	64-pin LQFP (PLQP0064KB-C)	Ψ_{jt}	0.80	$^{\circ}\text{C}/\text{W}$	JESD 51-2 and 51-7 compliant
	100-pin LQFP (PLQP0100KB-B)		0.76		
	144-pin LQFP (PLQP0144KA-B)		0.63		
	64-pin BGA (PLBG0064JC-A)		0.74		
	144-pin BGA (PLBG0144KB-A)		0.81		

(RA6M5)

[Before]

Table 53.11 Thermal Resistance

Parameter	Package	Symbol	Value*1	Unit	Test conditions
Thermal Resistance	100-pin LQFP (PLQP0100KB-B)	θ_{ja}	35.0	°C/W	JESD 51-2 and 51-7 compliant
	144-pin LQFP (PLQP0144KA-B)		33.0		
	176-pin LQFP (PLQP0176KB-C)		32.3		
	144-pin BGA (PLBG0144KB-A)		36.3		
	176-pin BGA (PLBG0176GF-A)		35.4		
	100-pin LQFP (PLQP0100KB-B)	Ψ_{jt}	0.76	°C/W	JESD 51-2 and 51-7 compliant
	144-pin LQFP (PLQP0144KA-B)		0.63		
	176-pin LQFP (PLQP0176KB-C)		0.48		
	144-pin BGA (PLBG0144KB-A)		0.49		
	176-pin BGA (PLBG0176GF-A)		0.52		
					JESD 51-2 and 51-9 compliant

[After]

Table 53.11 Thermal Resistance

Parameter	Package	Symbol	Value*1	Unit	Test conditions
Thermal Resistance	100-pin LQFP (PLQP0100KB-B)	θ_{ja}	35.0	°C/W	JESD 51-2 and 51-7 compliant
	144-pin LQFP (PLQP0144KA-B)		33.0		
	176-pin LQFP (PLQP0176KB-C)		32.3		
	144-pin BGA (PLBG0144KB-A)		36.3		
	176-pin BGA (PLBG0176GF-A)		35.4		
	100-pin LQFP (PLQP0100KB-B)	Ψ_{jt}	0.76	°C/W	JESD 51-2 and 51-7 compliant
	144-pin LQFP (PLQP0144KA-B)		0.63		
	176-pin LQFP (PLQP0176KB-C)		0.48		
	144-pin BGA (PLBG0144KB-A)		0.60		
	176-pin BGA (PLBG0176GF-A)		0.52		
					JESD 51-2 and 51-9 compliant