

5.4 Thermal Information

THERMAL METRIC ⁽¹⁾	LMx24, LM2902						LMx24			UNIT
	D (SOIC)	DB (SSOP)	N (PDIP)	NS (SO)	PW (TSSOP)	RTE (WQFN) (6)	FK (LCCC)	J (CDIP)	W (CFP)	
	14 PINS	14 PINS	14 PINS	14 PINS	14 PINS	16 PINS	20 PINS	14 PINS	14 PINS	
R _{θJA} ^{(2) (3)} Junction-to-ambient thermal resistance	99.3	106.5	83.5	90.4	124.7	64.9	74.5	84.7	153.4	°C/W
R _{θJC(top)} ⁽⁴⁾ Junction-to-case (top) thermal resistance	60.4	55.5	62.0	48.0	57.9	68.8	49.9	37.5	72.7	°C/W
R _{θJB}	57.5	56.8	57.7	49.2	80.7	40.2	49.0	72.2	146.5	
ψ _{JT}	19.8	18.2	40.5	14.4	8.4	4.9	42.9	31.0	48.3	
ψ _{JB}	57.0	55.8	57.1	48.8	79.8	40.0	48.9	67.3	129.2	
R _{θJC(bot)} Junction-to-case (bottom) thermal resistance	—	—	—	—	—	23.6	7.3	18.8	10.1	°C/W

- (1) For more information about traditional and new thermal metrics, see the [Semiconductor and IC Package Thermal Metrics](#) application note.
- (2) Short circuits from outputs to VCC can cause excessive heating and eventual destruction.
- (3) Maximum power dissipation is a function of T_{J(max)}, R_{θJA}, and T_A. The maximum allowable power dissipation at any allowable ambient temperature is $P_D = (T_{J(max)} - T_A) / R_{\theta JA}$. Operating at the absolute maximum T_J of 150°C can affect reliability.
- (4) Maximum power dissipation is a function of T_{J(max)}, R_{θJA}, and T_C. The maximum allowable power dissipation at any allowable case temperature is $P_D = (T_{J(max)} - T_C) / R_{\theta JC}$. Operating at the absolute maximum T_J of 150°C can affect reliability.
- (5) This package is preview only.