

## Important notice

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In data sheets and application notes which still contain NXP or Philips Semiconductors references, use the references to Nexperia, as shown below.

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Instead of sales.addresses@www.nxp.com or sales.addresses@www.semiconductors.philips.com, use salesaddresses@nexperia.com (email)

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If you have any questions related to the data sheet, please contact our nearest sales office via e-mail or telephone (details via **salesaddresses@nexperia.com**). Thank you for your cooperation and understanding,

Kind regards,

Team Nexperia



## Thermal RC network (Foster)

## **SPICE thermal model**

## BUK7K25-40E

Parameter	Conditions	Min	Тур	Max	Unit
thermal resistance from junction to mounting base		-	-	4.68	K/W
Cth <sub>1</sub>	1.267E-05 F		<b>夕</b>	4.	
Cth <sub>2</sub>	6.746E-05 F			<u> </u>	
Cth <sub>3</sub>	9.693E-05 F				
Cth <sub>4</sub>	4.239E-04 F			$\bigcap_{Rth_4} \perp_{Cth}$	
Cth <sub>5</sub>	1.921E-03 F			┙╵┈╵╶┯╰┉	רי
Cth <sub>6</sub>	2.081E-03 F				
Cth <sub>7</sub>	7.455E-02 F		l r	<u>←</u>	
Cth <sub>8</sub>	4.773E+00 F			Rth <sub>2</sub> + Cth	2
Rth <sub>1</sub>	7.020E-03 Ω				
Rth <sub>2</sub>	1.675E-02 Ω			┧ ⊥	
Rth <sub>3</sub>	1.023E-01 Ω			Rth3 TCth	3
Rth <sub>4</sub>	2.229E-01 Ω			┖┿┦	
Rth <sub>5</sub>	6.814E-01 Ω				
Rth <sub>6</sub>	3.349Ε+00 Ω			$ _{Rth_{4}} \perp_{Cth}$	14
Rth <sub>7</sub>	2.648Ε-01 Ω			J T 9"	· <del></del>
Rth <sub>8</sub>	3.995Ε-02 Ω	(	(P)		
			$\bigvee$ $_{I}$	<u> ነ</u>	
				Rth5 = Cth	5
				┸┯╜	
				$\bigcap_{Rthe} \perp_{Cth}$	
					ю
			l r	5	
				Rth7 = Cth	7
			L	┸—	
B. 11/21/22 - 22					
BUK7K25-40E				$\bigcap_{Rthe} \perp_{Ctt}$	
20/2/2042					שׁוּ
4.00 K/W				tomb	
			$\Diamond$		<b>.</b> .
				oo raar/ c	,,,
	from junction to mounting base  Cth <sub>1</sub> Cth <sub>2</sub> Cth <sub>3</sub> Cth <sub>4</sub> Cth <sub>5</sub> Cth <sub>6</sub> Cth <sub>7</sub> Cth <sub>8</sub> Rth <sub>1</sub> Rth <sub>2</sub> Rth <sub>3</sub> Rth <sub>4</sub> Rth <sub>5</sub> Rth <sub>6</sub> Rth <sub>7</sub> Rth <sub>8</sub>	from junction to mounting base  Cth <sub>1</sub> 1.267E-05 F Cth <sub>2</sub> 6.746E-05 F Cth <sub>3</sub> 9.693E-05 F Cth <sub>4</sub> 4.239E-04 F Cth <sub>5</sub> 1.921E-03 F Cth <sub>6</sub> 2.081E-03 F Cth <sub>7</sub> 7.455E-02 F Cth <sub>8</sub> 4.773E+00 F  Rth <sub>1</sub> 7.020E-03 Ω Rth <sub>2</sub> 1.675E-02 Ω Rth <sub>3</sub> 1.023E-01 Ω Rth <sub>4</sub> 2.229E-01 Ω Rth <sub>5</sub> 6.814E-01 Ω Rth <sub>6</sub> 3.349E+00 Ω Rth <sub>7</sub> 2.648E-01 Ω Rth <sub>8</sub> 3.995E-02 Ω	Cth <sub>1</sub>	Cth	Cth   1.267E-05 F   Cth   6.746E-05 F   Cth   9.693E-05 F   Cth   4.239E-04 F   Cth   2.081E-03 F   Cth   2.081E-03 F   Cth   4.773E+00 F   Cth   4.773E+00 F   Cth   6.814E-01 Ω   Rth   2.229E-01 Ω   Rth   2.229E-01 Ω   Rth   3.349E+00 Ω   Rth   2.228E-01 Ω   Rth   3.349E+00 Ω   Rth   3.395E-02 Ω   Rth   3.995E-02 Ω   Rth   Cth   Rth   R