C3M0065100K EOL Transition Guide

Wolfspeed

SEPTEMBER 2024

900/1000V → 1200V TRANSITION

- Transitioning to 1200V class devices provides:
  - Increased $R_{DS(ON)}$ options
  - Increased package options
  - Improved availability and lead times
  - Broader range of applications supported
  - Increased scalability across power levels
- Comparable 1200V products offer potential drop-in solutions for existing designs

SUGGESTED REPLACEMENT OPTION 1

	C3M0065100K	C3M0075120K	Notes
Status	EOL issued Oct 2024	Active	Already qualified on 200mm. Samples available now. Production December 2024
$V_{DS\ max}$ (V)	1000	1200	
V_{GS} (V)	-4/15	-4/+15	Compatible gate drive levels
I_D (A)	32	31	
$R_{DS(ON)}$ (mΩ)	65	75	Increased conduction losses
C_{oss} (pF)	70	58	Reduced output capacitance improves switching speed
C_{iss}/C_{rss}	152	695	Reduced impact of miller capacitance
Q_G (nC)	37	53	Increased gate power requirement
$R_{G(int)}$ (Ω)	3.5	9	Higher internal R_G may require reduced $R_{G(EXT)}$ in gate drive circuit
$R_{\theta JC}$ (C/W)	1.1 (max)	1.1 (max)	
Package	TO-247-4	TO-247-4	Fully Compatible
Pricing			Improved price

This replacement option is ideal for most designs

All parameters are typical values at 25 °C unless noted

SUGGESTED REPLACEMENT OPTION 2: CONDUCTION LOSS DOMINATED DESIGNS

	C3M0065100K	C3M0040120K	Notes
Status	EOL issued Oct 2024	Active	Already qualified on 200mm. Samples and production available now.
$V_{DS\ max}$ (V)	1000	1200	
V_{GS} (V)	-4/15	-4/+15	Compatible gate drive levels
I_D (A)	32	66	Increased current capability
$R_{DS(ON)}$ (mΩ)	65	40	Reduced conduction losses
C_{oss} (pF)	70	103	
C_{iss}/C_{rss}	152	580	Reduced impact of miller capacitance
Q_G (nC)	37	99	Increased gate power requirement
$R_{G(int)}$ (Ω)	3.5	3.5	
$R_{\theta JC}$ (C/W)	0.94	0.46	Lower thermal impedance reduces T_J
Package	TO-247-4	TO-247-4L	Fully Compatible
Pricing		↘	Improved price

This replacement option is for designs that need improved efficiency or additional thermal margin and are conduction loss dominated

All parameters are typical values at 25 °C unless noted

NEXT STEPS

- Samples of recommended replacements available through your Wolfspeed sales team, or at our online Sample Center
- Ask any technical questions to your Wolfspeed FAE or through our Power Applications Forum
- Utilize SpeedFit™ to simulate the performance of the recommended replacement devices
  - Keep in mind, dynamic behavior may be different, requiring a different gate resistor value
- The SpeedVal™ Kit evaluation platform may be utilized to compare the performance and switching behavior

THANK YOU