

PCN Number:  
24

PCN Date:  
6/4/2021

Initiator:  
William Simon

Implementation Date:  
6/4/2022

## PCN INFORMATION

PCN Phase

- Pre  
 Final

Type of Change

- Major  
 Minor  
 Obsolescence

PCN Requirement

- Customer Approval Required  
 Customer Notification Required  
 Notification Only

Change Affects  
Select all that apply

- Form  Reliability  
 Fit  N/A  
 Function

Title\*

UF3C120150K3S Obsolescence

*This will be the name of the PCN folder*

Description of Change

UF3C120150K3S Obsolescence

Reason for Change

UF3C120150K3S suffers from ringing that alternate parts UJ3C120150K3S, UF3C120150K4S, and UF3C120150B7S do not.

## MAJOR AND MINOR CHANGE INFORMATION

Affected Product Specification (if applicable)

UF3C120150K3S  
\*see [unitedsic.com](https://unitedsic.com) for datasheets

Detail of Potential Impact to Customer

Avoid potential application issues. UJ3C120150K3S, UF3C120150K4S, and UF3C120150B7S are all suitable alternate parts.

Qualification Plan or Data (if applicable)

Not applicable.

Customer Samples Available (if applicable)

Not applicable.

Qualification Results Available (if applicable)

Not applicable. See <https://unitedsic.com/quality-reliability/> for Qualification and Reliability Reports for alternate parts.

Identification of Changed Product (if applicable)

Not applicable.

Comments and/or Supporting Data

Not applicable.

## OBSOLESCENCE NOTIFICATIONS INFORMATION

Last Time Buy Date

12/4/2021

Last Time Ship Date

6/4/2022

Alternate Part Recommendation

UJ3C120150K3S, UF3C120150K4S, or UF3C120150B7S

Customer Acknowledgement/Responses

All Customer responses must be sent via e-mail to PCNResponse@Unitedsic.com. When replying, please include the PCN number in subject line. Lack of acknowledgement of the PCN within 30 days constitutes acceptance of the change. After acknowledgement, lack of additional response prior to the planned implementation date constitutes acceptance of the change. An acceptance, concern, sample order request or a request for further information should be submitted to UnitedSic in a timely fashion, (i.e., customer should not wait to the end of the review period before responding). If the customer requires additional time to perform sample testing, beyond the stated planned implementation date, an extension must be negotiated with UnitedSic. Any contractual PCN agreements made with UnitedSic supersede these requirements.

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UnitedSic Corporate Headquarters  
650 College Road East, Suite 1500  
Princeton, NJ 08540

E-mail (PCN Related Correspondence Only): [PCNResponse@UnitedSic.com](mailto:PCNResponse@UnitedSic.com)

# UF3C120150K3S Obsolescence

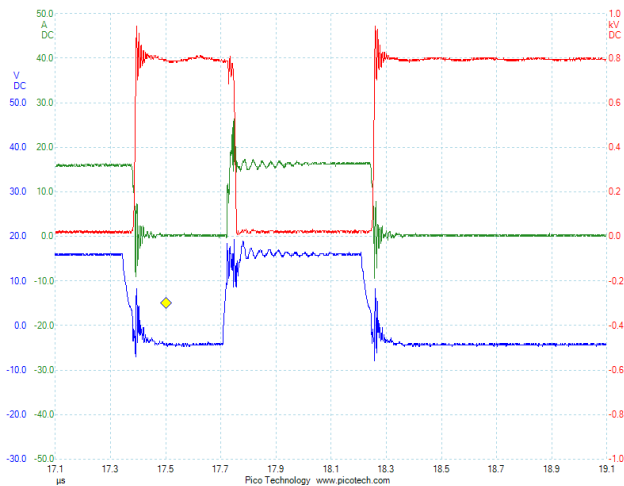
Alternate Parts



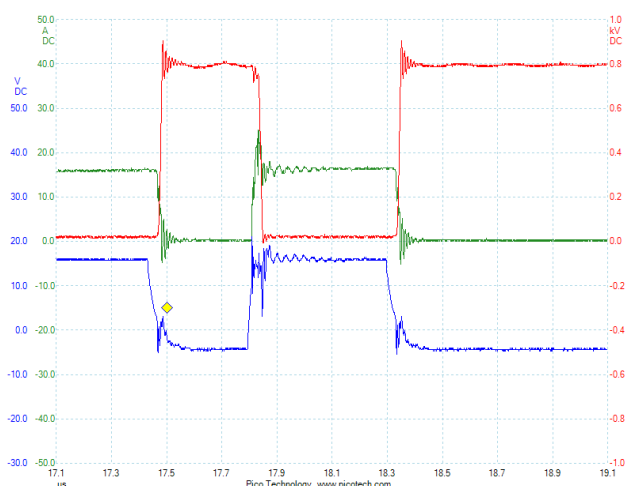
# UF3C120150K3S Obsolescence

The part was subjected to double pulse testing and was found to ring at turn-on and turn-off, regardless of snubber parameters.

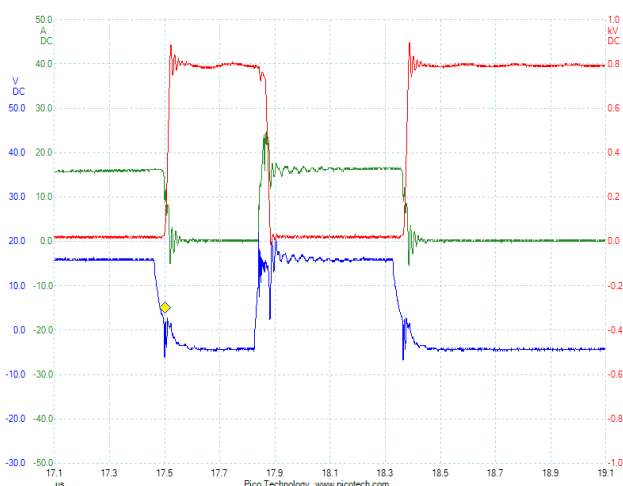
Measured switching waveforms at 800V-16A, RT



Without device RC snubber  
 $E_{on} = 307\mu\text{J}$   
 $E_{off} = 31\mu\text{J}$



With device RC snubber:  $C_s=47\text{pF}$ ,  $R_s = 5\text{ohm}$   
 $E_{on} = 354\mu\text{J}$   
 $E_{off} = 44\mu\text{J}$

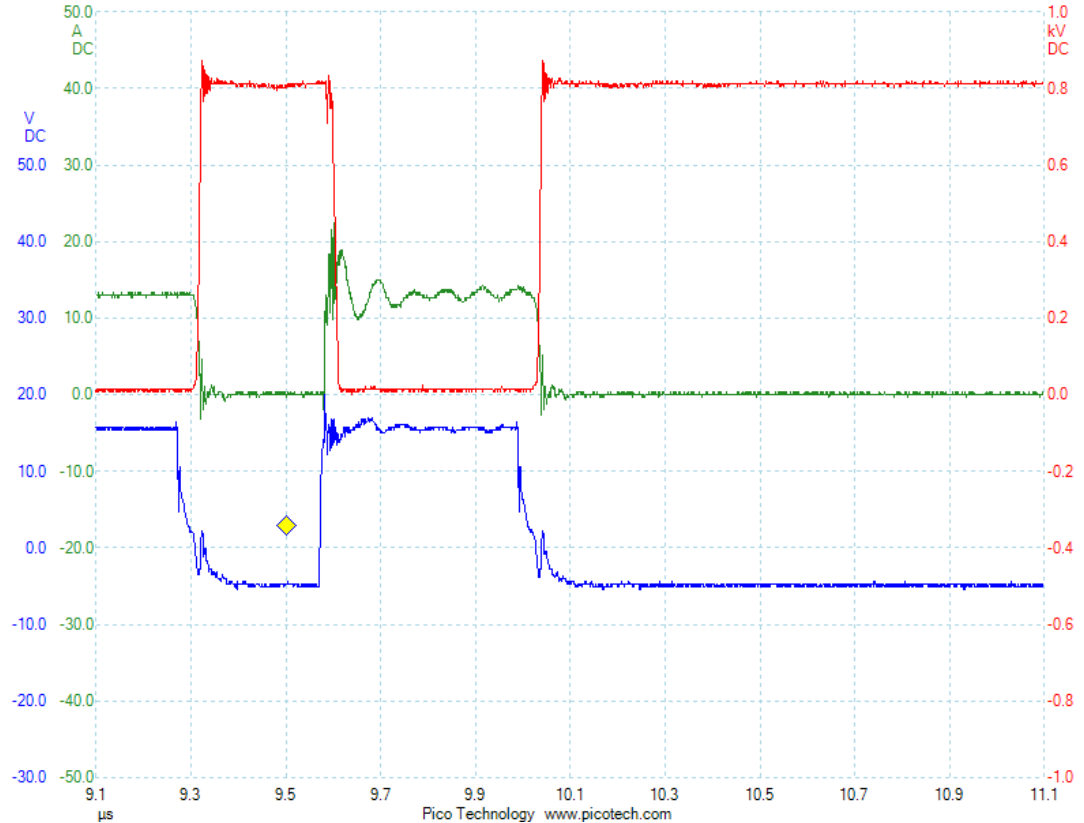


With device RC snubber:  $C_s=94\text{pF}$ ,  $R_s = 5\text{ohm}$   
 $E_{on} = 390\mu\text{J}$   
 $E_{off} = 56\mu\text{J}$

# Replacement Part Option 1: UJ3C120150K3S

Measured switching waveforms at 800V-13A, RT, with  $R_{g,on} = 1\Omega$ , and  $R_{g,off} = 20\Omega$

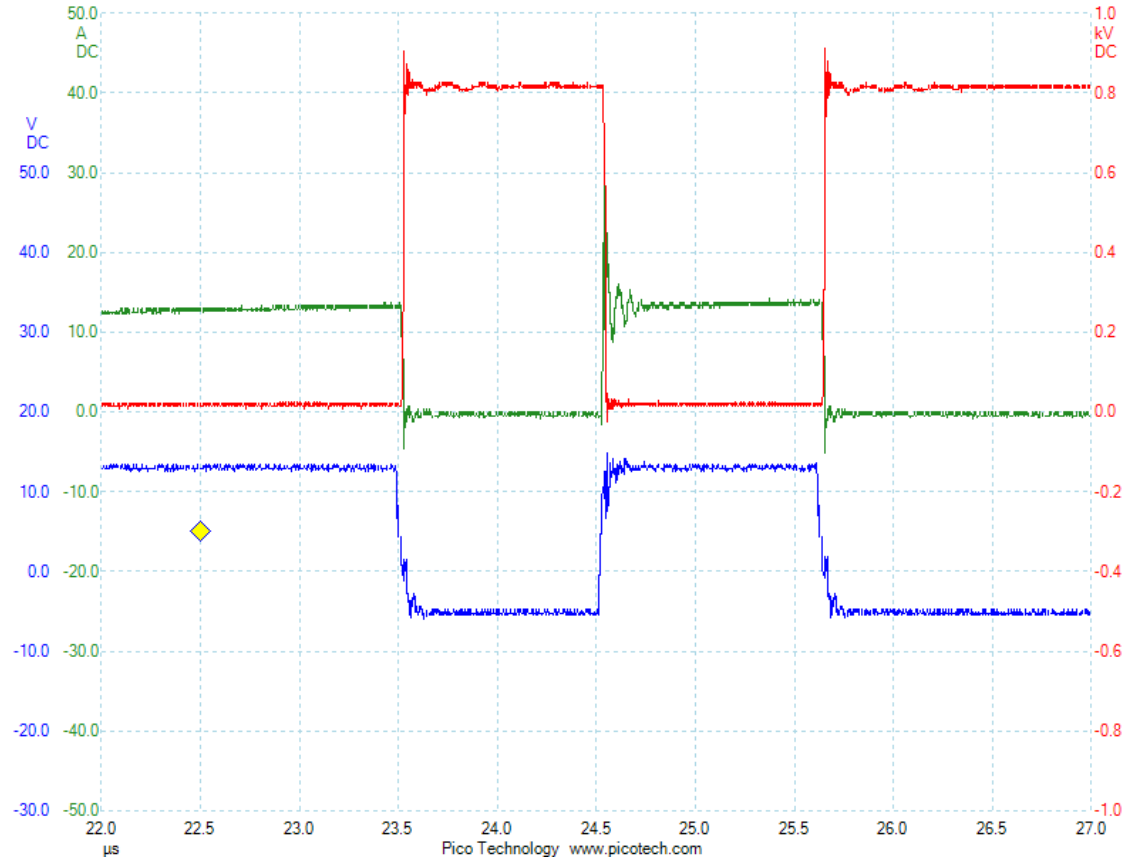
The Turn-on and Turn-off ringing can be reduced with the correct snubber parameters.



## Replacement Part Option 2: UF3C120150K4S

Measured switching waveforms at 800V-13A, RT, with  $R_{g,on} = 15\Omega$ , and  $R_{g,off} = 22\Omega$

The Turn-on and Turn-off ringing can be reduced with the correct snubber parameters.



# Replacement Part Option 3: UF3C120150B7S

Measured switching waveforms at 800V-13A, RT, with  $R_{g,on} = 15\Omega$ , and  $R_{g,off} = 20\Omega$

The Turn-on and Turn-off ringing can be reduced with the correct snubber parameters.

