REPLACEMENT PART REFERENCE GUIDE, U2C-1SP4T-63H AN-80-028

Replacement Part has been judged by Mini-Circuits Engineering as a suitable replacement to Original Part

Original Part	**U2C-1SP4T-63H**	
Replacement Part	**U2C-1SP4T-852H**	

1. MECHANICAL DIMENSIONS

Original Part: U2C-1SP4T-63H	**Replacement Part: U2C-1SP4T-852H**
Case Style: RB2502	**Case Style: RB2502**
Conclusion: Original and Replacement Part have the same exact Case Style and Mechanical Dimensions.	

This document and its contents are the property of Mini-Circuits.

2. ELECTRICAL PERFORMANCE:

SUMMARY ELECTRICAL PERFORMANCE CHARACTERISTICS			
Parameters	**Conditions (MHz)**	**U2C-1SP4T-63H (Original part)**	**U2C-1SP4T-852H (Replacement part)**
Frequency	–	2 - 6000	2 - 8500
Insertion Loss	6000 - 7200 7200 - 8500	– –	4.5 dB Typ, 6.5 dB Max 5.5 dB Typ, 7.0 dB Max
Isolation (between ports J1 - J4)	6000 - 8500	–	62 dB Typ, 49 dB Min
Isolation (Com to terminated port)	6000 - 7200 7200 - 8500	– –	64 dB Typ, 50 dB Min 55 dB Typ, 45 dB Min
Isolation (Disconnected, Com to J2 - J4)	6000 - 7200 7200 - 8500	– –	64 dB Typ, 50 dB Min 55 dB Typ, 45 dB Min
Isolation (Disconnected, Com to J1)	6000 - 7200 7200 - 8000 8000 - 8500	– – –	32 dB Typ, 25 dB Min 29 dB Typ, 24 dB Min 28 dB Typ, 23 dB Min
Return Loss (Com port, active)	6000 - 7200 7200 - 8000 8000 - 8500	– – –	16.5 dB Typ 12.0 dB Typ 11.0 dB Typ
Return Loss (any port to Com)	6000 - 7200 7200 - 8000 8000 - 8500	– – –	14.0 dB Typ 13.0 dB Typ 11.5 dB Typ
Return Loss (any terminated port)	5000 - 6000 6000 - 7200 7200 - 8000 8000 - 8500	16.5 dB Typ – – –	19.0 dB Typ 19.0 dB Typ 17.0 dB Typ 14.5 dB Typ
Power input @1 dB compression	6000 - 8500	–	+35 dBM Typ
IP3	6000 - 8500	–	+50 dBM Typ
Operating RF input power (through path // cold switching)	2 - 50	Derates linearly from +30 dBm @ 50 MHz to +18 dBm @ 2 MHz	Derates linearly from +30 dBm @ 50 MHz to +18 dBm @ 2 MHz
	6000 - 8500	–	+29 dBm Max
Operating RF input power (any terminated port) + (per port // hot switching)	2 - 30	Derates linearly from +23 dBm @ 30 MHz to +18 dBm @ 2 MHz	Derates linearly from +24 dBm @ 30 MHz to +18 dBm @ 2 MHz
	30 - 6000	+23 dBm Max	+24 dBm Max
	6000 - 8500	–	+24 dBm Max
Operating temperature	–	0°C to 50°C	-10°C to 60°C
Storage temperature	–	-20°C to 60°C	-20°C to 85°C

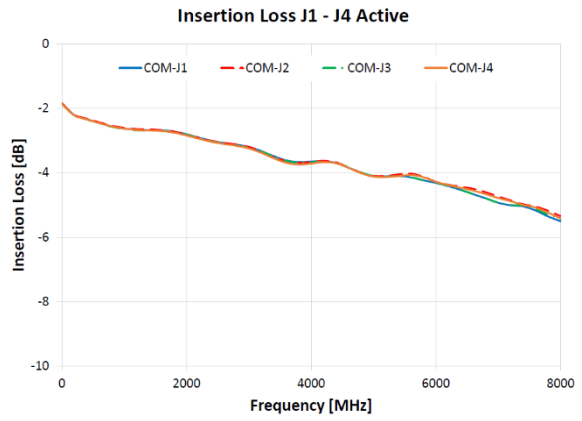
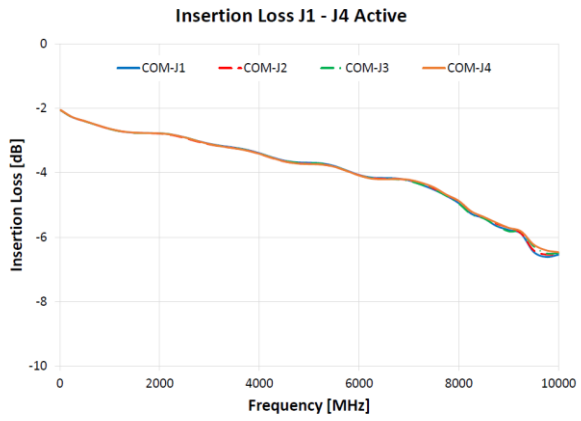
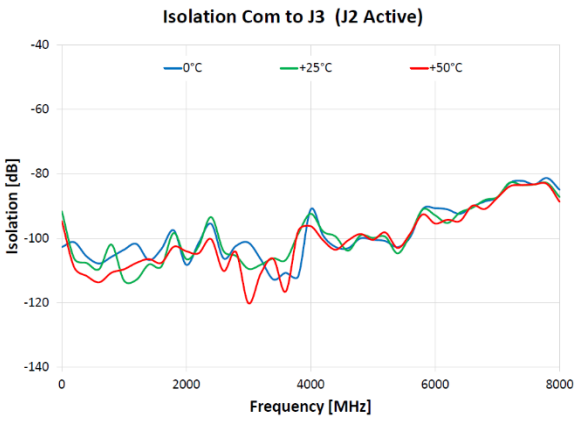
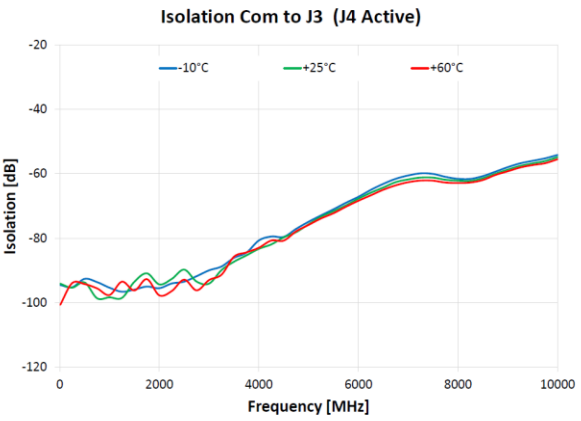
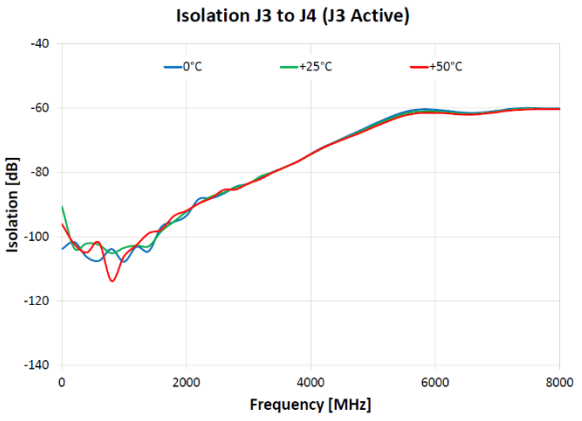
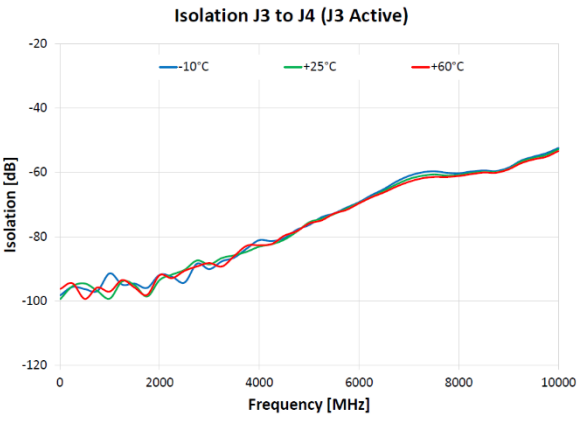
Compared to the U2C-1SP4T-63H, the U2C-1SP4T-852H has the following differences:

- Electrical specification has been extended for the 6000 - 8500 MHz frequency range.
- Improvement in return loss (terminated port) at 5000 - 6000 frequency band.
- Improvement in operating RF input power.
- Improvement in operating and storage temperatures.

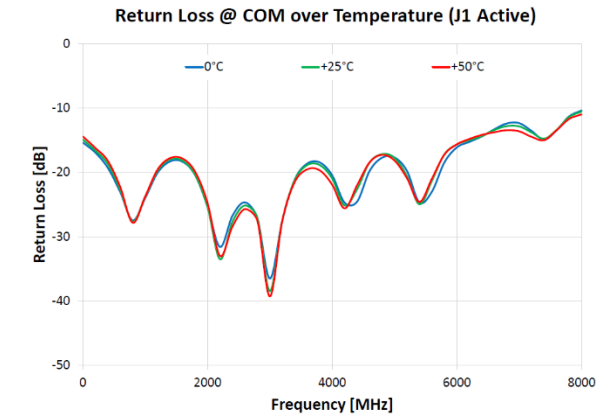
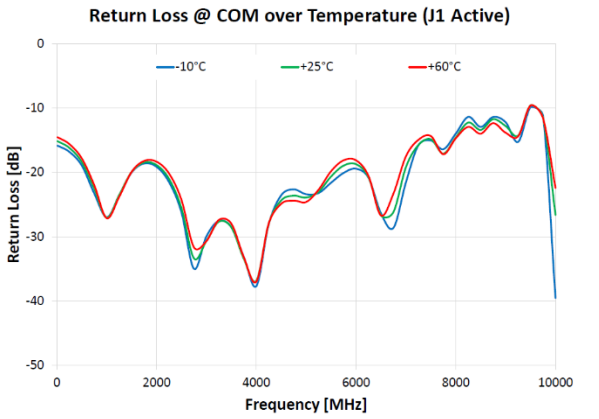
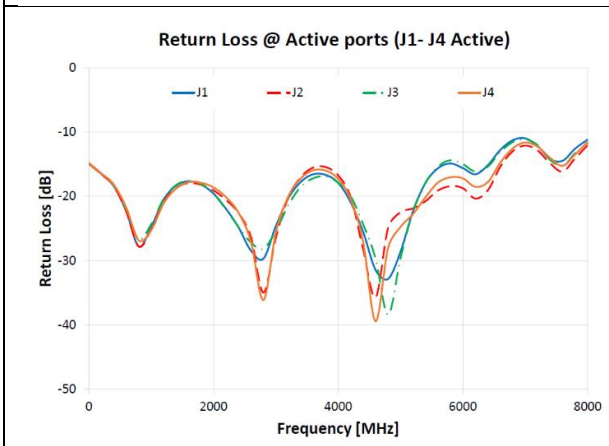
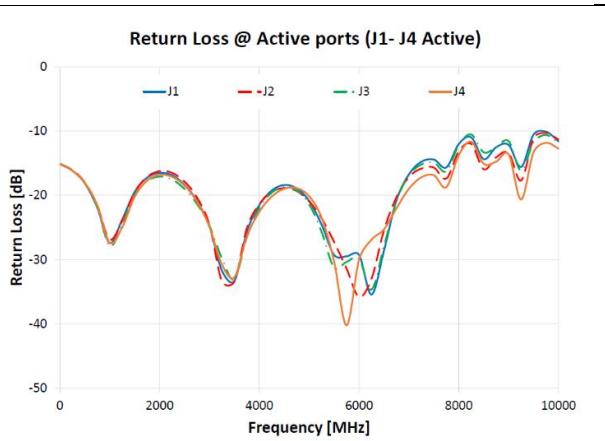
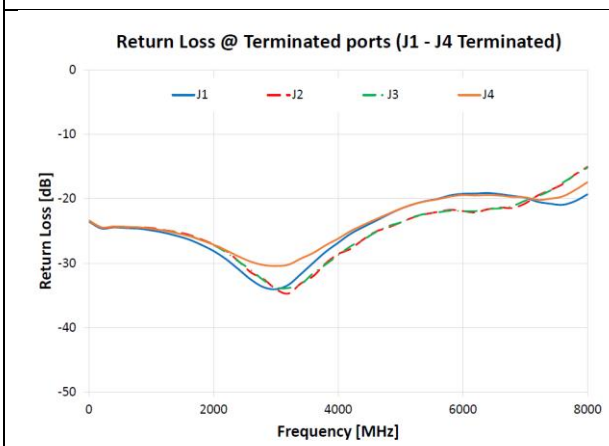
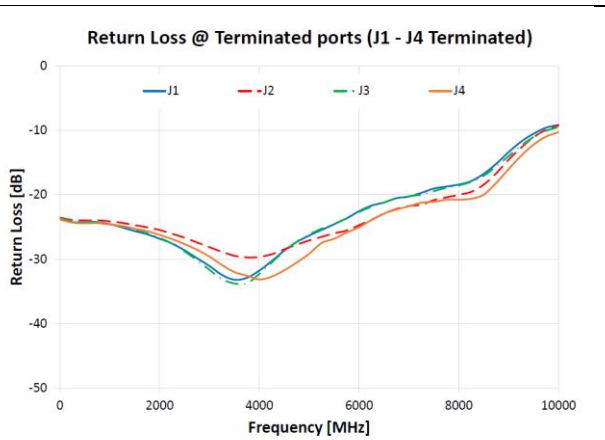
Overall, users can expect U2C-1SP4T-852H to perform the same as U2C-1SP4T-63H in the original 2 - 6000 MHz frequency range (refer to section 3 for typical performance graphs). As such, the electrical specification for this range is not listed in the table unless it has changed.

This document and its contents are the property of Mini-Circuits.

3. TYPICAL PERFORMANCE GRAPHS

TYPICAL PERFORMANCE GRAPHS	
Original Part U2C-1SP4T-63H	**Replacement Part U2C-1SP4T-852H**
	
	
	
More performance graphs can be found on the Mini Circuits website.	

This document and its contents are the property of Mini-Circuits.

TYPICAL PERFORMANCE GRAPHS	
Original Part U2C-1SP4T-63H	**Replacement Part U2C-1SP4T-852H**
	
	
	
More performance graphs can be found on the Mini Circuits website.	

This document and its contents are the property of Mini-Circuits.

4 CONCLUSION

U2C-1SP4T-852H manages to provide the same performance level as that of U2C-1SP4T-63H in the original 2 - 6000 MHz frequency range all while performing within an expanded operating temperature range.

Additionally, users will find the U2C-1SP4T-852H to be better suitable for modern applications due to extending the supported frequency range from 6000 MHz to 8500 MHz.

This makes the U2C-1SP4T-852H an excellent replacement for the U2C-1SP4T-63H – keeping the existing performance level for users' past and current applications while also providing support for users' future applications.

© 2015 Mini-Circuits

IMPORTANT NOTICE

This document is provided as an accommodation to Mini-Circuits customers in connection with Mini-Circuits parts only. In that regard, this document is for informational and guideline purposes only. Mini-Circuits assumes no responsibility for errors or omissions in this document or for any information contained herein.
Mini-Circuits may change this document or the Mini-Circuits parts referenced herein (collectively, the "Materials") from time to time, without notice. Mini-Circuits makes no commitment to update or correct any of the Materials, and Mini-Circuits shall have no responsibility whatsoever on account of any updates or corrections to the Materials or Mini-Circuits' failure to do so.
Mini-Circuits customers are solely responsible for the products, systems, and applications in which Mini-Circuits parts are incorporated or used. In that regard, customers are responsible for consulting with their own engineers and other appropriate professionals who are familiar with the specific products and systems into which Mini-Circuits' parts are to be incorporated or used so that the proper selection, installation/integration, use and safeguards are made. Accordingly, Mini-Circuits assumes no liability therefore.
In addition, your use of this document and the information contained herein is subject to Mini-Circuits' standard terms of use, which are available at Mini-Circuits' website at www.minicircuits.com/homepage/terms_of_use.html.
Mini-Circuits and the Mini-Circuits logo are registered trademarks of Scientific Components Corporation d/b/a Mini-Circuits. All other third-party trademarks are the property of their respective owners. A reference to any third-party trademark does not constitute or imply any endorsement, affiliation, sponsorship, or recommendation: (i) by Mini-Circuits of such third- party's products, services, processes, or other information; or (ii) by any such third-party of Mini-Circuits or its products, services, processes, or other information.