

REPLACEMENT PART REFERENCE GUIDE, USB-2SP4T-63H AN-80-030

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

Original Part	USB-2SP4T-63H		
Replacement Part	USB-2SP4T-852H	A LOS TOS TOS TOS TOS TOS	

1. MECHANICAL DIMENSIONS

Original Part: USB-2SP4T-63H	Replacement Part: USB-2SP4T-852H
Case Style: QM2605	Case Style: QM2605

Conclusion: Original and Replacement Part have the same exact Case Style and Mechanical Dimensions.



2. ELECTRICAL PERFORMANCE:

Parameters Conditions (MHz) USB-2SP4T-63H (Original part) USB-2SP4T-652H (Replacement part) Frequency - 10 - 6000 10 - 8500 Insertion Loss 7200 - 8000 - 3.7 dB Typ, 6.0 dB Max Isolation 6000 - 7200 - 3.7 dB Typ, 6.0 dB Max Isolation 6000 - 8500 - 5.0 dB Typ, 7.0 dB Max Isolation 6000 - 7200 - 72 dB Typ, 53 dB Min (between ports J1 - J4 7200 - 8000 - 60 dB Typ, 50 dB Min (Com to terminated port 7200 - 8000 - 60 dB Typ, 50 dB Min of any given switch) 8000 - 8500 - 60 dB Typ, 50 dB Min Isolation (Disconnected state) 6000 - 7200 - 64 dB Typ, 50 dB Min (Com to J1, J2, J4 of any given 7200 - 8000 - 57 dB Typ, 45 dB Min Isolation (Disconnected state) (Com 6000 - 7200 - 24 dB Typ, 33 dB Min Isolation Goro - 7200 - 24 dB Typ, 33 dB Min Isolation Goro - 7200 - 10 dB Typ, 50 dB Min Isolation	SUMMARY ELECTRICAL PERFORMANCE CHARACTERISTICS				
Frequency - 10 - 6000 10 - 8500 Insertion Loss 6000 - 7200 - 3.7 dB Typ, 6.0 dB Max Isolation 8000 - 8500 - 5.0 dB Typ, 7.0 dB Max Isolation 6000 - 7200 - 72 dB Typ, 58 dB Min of any given switch) 8000 - 8500 - 60 dB Typ, 50 dB Min isolation 6000 - 7200 - 72 dB Typ, 56 dB Min of any given switch) 8000 - 8500 - 60 dB Typ, 50 dB Min isolation 6000 - 7200 - 60 dB Typ, 50 dB Min (Com to terminated port 7200 - 8000 - 60 dB Typ, 50 dB Min isolation (Disconnected state) 6000 - 7200 - 64 dB Typ, 55 dB Min (Cor to J1, J2, J4 of any given 8000 - 8500 - 57 dB Typ, 43 dB Min isolation (Disconnected state) (Com 6000 - 7200 - 24 dB Typ, 32 dB Min isolation (Crosstalk between switches) 6000 - 7200 - 18 dB Typ, 32 dB Min isolation (Crosstalk between switches) 6000 - 7200 - 15.0 dB Typ (Cor port, active)	Devementere	Conditions	USB-2SP4T-63H	USB-2SP4T-852H	
Insertion Loss 6000 - 7200 - 3.7 dB Typ, 6.0 dB Max Insertion Loss 7200 - 8000 - 4.3 dB Typ, 6.6 dB Max Isolation 6000 - 7200 - 72 dB Typ, 58 dB Min Isolation 6000 - 7200 - 72 dB Typ, 58 dB Min Isolation 6000 - 7200 - 67 dB Typ, 50 dB Min Isolation 6000 - 7200 - 64 dB Typ, 50 dB Min Isolation 6000 - 7200 - 64 dB Typ, 50 dB Min Isolation 6000 - 7200 - 64 dB Typ, 50 dB Min Isolation (Disconnected state) 6000 - 7200 - 64 dB Typ, 50 dB Min Isolation (Disconnected state) 6000 - 7200 - 64 dB Typ, 53 dB Min Isolation (Disconnected state) 6000 - 7200 - 24 dB Typ, 33 dB Min Isolation (Disconnected state) (Com 6000 - 8500 - 18 dB Typ, 32 dB Min Isolation (Crosstalk between switchs) 6000 - 8500 - 18 dB Typ, 33 dB Min Isolation 6000 - 7200 - 15.0 dB Typ (Cro sstalk between switches) 6000 -	Parameters	(MHz)	(Original part)	(Replacement part)	
Insertion Loss 7200 - 8000 8000 - 8500 - 4.3 dB Typ, 6.5 dB Max 5.0 dB Typ, 7.0 dB Max Isolation 6000 - 7200 - 72 dB Typ, 50 dB Min (between ports J1 - J4 7200 - 8000 - 60 dB Typ, 50 dB Min Isolation 6000 - 7200 - 60 dB Typ, 50 dB Min Isolation 6000 - 7200 - 64 dB Typ, 55 dB Min (Com to terminated port 7200 - 8000 - 64 dB Typ, 55 dB Min (Com to terminated port 7200 - 8000 - 64 dB Typ, 55 dB Min Isolation (Disconnected state) 6000 - 7200 - 64 dB Typ, 50 dB Min (Com to J1, J2, J4 of any given 7200 - 8000 - 57 dB Typ, 45 dB Min Isolation (Disconnected state) (Com 6000 - 7200 - 24 dB Typ, 33 dB Min Isolation Disconnected state) (Com 7200 - 8000 - 100 dB Typ, 33 dB Min Isolation Giocon - 7200 - 14 dB Typ, 34 dB Min 8000 - 8500 - 18 dB Typ, 50 dB Min Isolation Giocon - 7200 - 13.5 dB Typ - <	Frequency	_	10 - 6000	10 - 8500	
8000 - 8500 - 5.0 dB Typ, 7.0 dB Max Isolation 6000 - 7200 - 72 dB Typ, 57 dB Min of any given switch) 8000 - 8500 - 67 dB Typ, 57 dB Min Isolation 6000 - 7200 - 64 dB Typ, 50 dB Min Isolation 6000 - 7200 - 64 dB Typ, 55 dB Min (Com to terminated port 7200 - 8000 - 60 dB Typ, 50 dB Min of any given switch) 8000 - 8500 - 67 dB Typ, 45 dB Min Isolation (Disconnected state) 6000 - 7200 - 64 dB Typ, 55 dB Min (Com to J1, J2, J4 of any given 7200 - 8000 - 60 dB Typ, 50 dB Min isolation (Disconnected state) (Com 6000 - 7200 - 24 dB Typ, 34 dB Min to J3 of any given switch) 8000 - 8500 - 18 dB Typ, 33 dB Min Isolation (Crosstalk between switches) 6000 - 7200 - 18 dB Typ, 35 dB Min (Cor port, active) 8000 - 8500 - 18 dB Typ 32 dB Min (Cor port, active) 6000 - 7200 - 15.0 dB Typ 6000 + 7200 -		6000 - 7200	—	3.7 dB Typ, 6.0 dB Max	
Isolation (between ports J1 - J4 6000 - 7200 7200 - 8000 - 72 dB Typ, 58 dB Min of any given switch) 8000 - 8500 - 60 dB Typ, 50 dB Min 60 dB Typ, 50 dB Min Isolation (Com to terminated port of any given switch) 6000 - 7200 - 64 dB Typ, 55 dB Min 60 dB Typ, 50 dB Min Isolation (Com to terminated port of any given switch) 8000 - 8500 - 64 dB Typ, 55 dB Min 60 dB Typ, 50 dB Min Isolation (Disconnected state) (Com to J1, J2, J4 of any given switch) 6000 - 7200 - 64 dB Typ, 53 dB Min 7200 - 8000 Isolation (Disconnected state) (Com port, active) 6000 - 7200 - 24 dB Typ, 34 dB Min 7200 - 8000 Isolation (Crosstalk between switchs) 6000 - 7200 - 24 dB Typ, 33 dB Min 7200 - 8000 Isolation (Com port, active) 6000 - 7200 - 18 dB Typ, 32 dB Min 7200 - 8000 Return Loss (any port to Com) 6000 - 7200 - 15.0 dB Typ Return Loss (any terminated port) 6000 - 8500 - 10.0 dB Typ (any terminated port) 8000 - 8500 - 13.5 dB Typ (Partin Loss (any terminated port) 6000 - 8500 - +33 dBM Typ (Partin Loss (any terminated port)<	Insertion Loss	7200 - 8000	_	4.3 dB Typ, 6.5 dB Max	
(between ports J1 - J4 7200 - 8000 - 67 dB Typ, 57 dB Min of any given switch) 8000 - 8500 - 60 dB Typ, 50 dB Min Isolation 6000 - 7200 - 64 dB Typ, 55 dB Min (Com to terminated port 7200 - 8000 - 60 dB Typ, 50 dB Min of any given switch) 8000 - 8500 - 57 dB Typ, 45 dB Min Isolation (Disconnected state) 6000 - 7200 - 64 dB Typ, 50 dB Min (Com to J1, J2, J4 of any given 7200 - 8000 - 60 dB Typ, 50 dB Min switch) 8000 - 8500 - 24 dB Typ, 34 dB Min Isolation (Disconnected state) (Com 6000 - 7200 - 24 dB Typ, 33 dB Min Isolation 6000 - 8500 - 18 dB Typ, 32 dB Min Isolation 6000 - 8500 - 100 dB Typ, 85 dB Min (Crosstalk between switches) 6000 - 8500 - 100 dB Typ Return Loss 6000 - 7200 - 13.5 dB Typ (Com port, active) 8000 - 8500 - 13.5 dB Typ Return Loss 6000 - 7200 <t< td=""><td></td><td>8000 - 8500</td><td>_</td><td>5.0 dB Typ, 7.0 dB Max</td></t<>		8000 - 8500	_	5.0 dB Typ, 7.0 dB Max	
of any given switch) 8000 - 8500 60 dB Typ, 50 dB Min Isolation 6000 - 7200 64 dB Typ, 50 dB Min (Com to terminated port 7200 60 dB Typ, 50 dB Min of any given switch) 8000 - 8500 60 dB Typ, 50 dB Min Isolation (Disconnected state) 6000 - 7200 64 dB Typ, 55 dB Min (Com to J1, J2, J4 of any given 7200 - 8000 60 dB Typ, 50 dB Min switch) 8000 - 8500 64 dB Typ, 54 dB Min Isolation (Disconnected state) (Com 6000 - 7200 24 dB Typ, 34 dB Min Isolation (Disconnected state) (Com 6000 - 7200 21 dB Typ, 33 dB Min isolation (Crosstalk between switch) 6000 - 8500 - 18 dB Typ, 32 dB Min Isolation (Crosstalk between switches) 6000 - 7200 15.0 dB Typ Return Loss 6000 - 7200 - 10.0 dB Typ (Com port, active) 8000 - 8500 - 10.0 dB Typ Return Loss 6000 - 7200 - 13.5 dB Typ (any port	Isolation	6000 - 7200	_	72 dB Typ, 58 dB Min	
of any given switch) 8000 - 8500 60 dB Typ, 50 dB Min Isolation 6000 - 7200 64 dB Typ, 50 dB Min (Com to terminated port 7200 60 dB Typ, 50 dB Min of any given switch) 8000 - 8500 60 dB Typ, 50 dB Min Isolation (Disconnected state) 6000 - 7200 64 dB Typ, 55 dB Min (Com to J1, J2, J4 of any given 7200 - 8000 60 dB Typ, 50 dB Min switch) 8000 - 8500 64 dB Typ, 54 dB Min Isolation (Disconnected state) (Com 6000 - 7200 24 dB Typ, 34 dB Min Isolation (Disconnected state) (Com 6000 - 7200 21 dB Typ, 33 dB Min isolation (Crosstalk between switch) 6000 - 8500 - 18 dB Typ, 32 dB Min Isolation (Crosstalk between switches) 6000 - 7200 15.0 dB Typ Return Loss 6000 - 7200 - 10.0 dB Typ (Com port, active) 8000 - 8500 - 10.0 dB Typ Return Loss 6000 - 7200 - 13.5 dB Typ (any port	(between ports J1 - J4	7200 - 8000	_	67 dB Typ, 57 dB Min	
(Com to terminated port of any given switch) 7200 - 8000 8000 - 8500 - 60 dB Typ, 50 dB Min 57 dB Typ, 45 dB Min Isolation (Disconnected state) (Com to J1, J2, J4 of any given switch) 6000 - 7200 8000 - 8500 - 64 dB Typ, 50 dB Min Isolation (Disconnected state) (Com to J1, J2, J4 of any given switch) 8000 - 8500 - 57 dB Typ, 45 dB Min Isolation (Disconnected state) (Com to J3 of any given switch) 6000 - 7200 - 24 dB Typ, 34 dB Min Isolation (Crosstalk between switches) 6000 - 8500 - 18 dB Typ, 32 dB Min Isolation (Crosstalk between switches) 6000 - 7200 - 15.0 dB Typ Return Loss (Com port, active) 6000 - 7200 - 10.0 dB Typ Return Loss (any port to Com) 6000 - 7200 - 13.5 dB Typ Return Loss (any port to Com) 6000 - 8500 - 10.0 dB Typ Return Loss (any terminated port) 6000 - 8500 - 13.5 dB Typ Return Loss (any terminated port) 6000 - 8500 - 15.5 dB Typ Return Loss (any terminated port) 6000 - 8500 - 433 dBM Typ IP3 6000 - 8500 -	of any given switch)	8000 - 8500	_		
of any given switch) 8000 - 8500 - 57 dB Typ, 45 dB Min Isolation (Disconnected state) 6000 - 7200 - 64 dB Typ, 55 dB Min (Com to J1, J2, J4 of any given 7200 - 8000 - 60 dB Typ, 45 dB Min switch) 8000 - 8500 - 57 dB Typ, 45 dB Min Isolation (Disconnected state) (Com 6000 - 7200 - 24 dB Typ, 34 dB Min to J3 of any given switch) 8000 - 8500 - 21 dB Typ, 33 dB Min Isolation (Crosstalk between switches) 6000 - 7200 - 18 dB Typ, 32 dB Min (Crosstalk between switches) 6000 - 7200 - 15.0 dB Typ (Com port, active) 8000 - 8500 - 10.0 dB Typ, 85 dB Min (Com port, active) 8000 - 8500 - 10.0 dB Typ Return Loss 6000 - 7200 - 7.0 dB Typ (any port to Com) 8000 - 8500 - 10.0 dB Typ Return Loss 6000 - 8000 - 15.5 dB Typ (any terminated port) 8000 - 8500 - 12.0 dB Typ Power input @1 dB compression	Isolation	6000 - 7200	_	64 dB Typ, 55 dB Min	
Isolation (Disconnected state) (Com to J1, J2, J4 of any given switch) 6000 - 7200 7200 - 8000 8000 - 8500 - - 64 dB Typ, 55 dB Min 60 dB Typ, 50 dB Min 20 typ, 50 dB Min 24 dB Typ, 34 dB Min 6000 - 7200 7200 - 8000 - Isolation (Disconnected state) (Com to J3 of any given switch) 6000 - 7200 7200 - 8000 - - 24 dB Typ, 33 dB Min 21 dB Typ, 33 dB Min 8000 - 8500 - Isolation (Crosstalk between switches) 6000 - 7200 6000 - 7200 - - 18 dB Typ, 35 dB Min 100 dB Typ, 85 dB Min Return Loss (Com port, active) 6000 - 7200 7200 - 8000 (Com port, active) - 15.0 dB Typ Return Loss (Com port, active) 6000 - 7200 8000 - 8500 - - 13.5 dB Typ Return Loss (any port to Com) 6000 - 8500 8000 - 8500 - - 13.5 dB Typ Return Loss (any terminated port) 6000 - 8500 8000 - 8500 - - 15.5 dB Typ Power input @1 dB compression 6000 - 8500 6000 - 8500 - - +33 dBM Typ IP3 - +30 dBm @ 50 MHz to +23 dBm @ 10 MHz +30 dBm @ 50 MHz to +25 dBm @ 10 MHz Operating RF input power (any terminated port) + (per port // hot switching) 10 - 6000 - +23 dBm Max +24 dBm Max Operating RF input power (any terminated port) + (per port // hot switching) - <td< td=""><td>(Com to terminated port</td><td>7200 - 8000</td><td>_</td><td>60 dB Typ, 50 dB Min</td></td<>	(Com to terminated port	7200 - 8000	_	60 dB Typ, 50 dB Min	
(Com to J1, J2, J4 of any given switch) 7200 - 8000 - 60 dB Typ, 50 dB Min Isolation (Disconnected state) (Com to J3 of any given switch) 6000 - 7200 - 24 dB Typ, 34 dB Min Isolation (Disconnected state) (Com to J3 of any given switch) 6000 - 8500 - 21 dB Typ, 33 dB Min Isolation (Crosstalk between switchs) 6000 - 8500 - 18 dB Typ, 32 dB Min Isolation (Crosstalk between switches) 6000 - 8500 - 100 dB Typ, 85 dB Min Return Loss (Com port, active) 6000 - 7200 - 15.0 dB Typ 8000 - 8500 - 100 dB Typ, 85 dB Min Return Loss (Com port, active) 6000 - 7200 - 10.0 dB Typ Return Loss (Com port, active) 6000 - 7200 - 13.5 dB Typ Return Loss (any port to Com) 6000 - 8500 - 10.0 dB Typ Return Loss (any port to Com) 6000 - 8500 - 15.5 dB Typ (Any port to Com) 8000 - 8500 - 15.5 dB Typ Power input @1 dB compression 6000 - 8500 - +33 dBM Typ IP3 6000 - 8500 - +3	of any given switch)	8000 - 8500	_	57 dB Typ, 45 dB Min	
(Com to J1, J2, J4 of any given switch) 7200 - 8000 - 60 dB Typ, 50 dB Min Isolation (Disconnected state) (Com to J3 of any given switch) 6000 - 7200 - 24 dB Typ, 34 dB Min Isolation (Disconnected state) (Com to J3 of any given switch) 6000 - 8500 - 21 dB Typ, 33 dB Min Isolation (Crosstalk between switchs) 6000 - 8500 - 18 dB Typ, 32 dB Min Isolation (Crosstalk between switches) 6000 - 8500 - 100 dB Typ, 85 dB Min Return Loss (Com port, active) 6000 - 7200 - 15.0 dB Typ 8000 - 8500 - 100 dB Typ, 85 dB Min Return Loss (Com port, active) 6000 - 7200 - 10.0 dB Typ Return Loss (Com port, active) 6000 - 7200 - 13.5 dB Typ Return Loss (any port to Com) 6000 - 8500 - 10.0 dB Typ Return Loss (any port to Com) 6000 - 8500 - 15.5 dB Typ (Any port to Com) 8000 - 8500 - 15.5 dB Typ Power input @1 dB compression 6000 - 8500 - +33 dBM Typ IP3 6000 - 8500 - +3	Isolation (Disconnected state)	6000 - 7200	_	64 dB Typ, 55 dB Min	
Isolation (Disconnected state) (Com to J3 of any given switch) 6000 - 7200 7200 - 8000 8000 - 8500 - 24 dB Typ, 34 dB Min 21 dB Typ, 33 dB Min 18 dB Typ, 32 dB Min Isolation (Crosstalk between switches) 6000 - 8500 - 100 dB Typ, 85 dB Min Return Loss (Com port, active) 6000 - 7200 7200 - 8000 - 10.0 dB Typ Return Loss (Com port, active) 6000 - 7200 8000 - 8500 - 10.0 dB Typ Return Loss (any port to Com) 6000 - 7200 7200 - 8000 - 13.5 dB Typ Return Loss (any port to Com) 6000 - 8500 - 10.0 dB Typ Return Loss (any port to Com) 6000 - 8500 - 13.5 dB Typ Return Loss (any terminated port) 6000 - 8500 - 12.0 dB Typ Power input @1 dB compression 6000 - 8500 - +33 dBM Typ IP3 6000 - 8500 - +30 dBm @ 50 MHz to +30 dBm @ 50 MHz to +23 dBm @ 10 MHz +25 dBm @ 10 MHz Operating RF input power (any terminated port) + (per port // hot switching) 10 - 6000 +23 dBm Max +24 dBm Max Operating RF input power (any terminated port) + (per port // hot switching) - +23 dBm Max +24 dBm Max		7200 - 8000	_	60 dB Typ, 50 dB Min	
Isolation (bisconnected state) (connected state) (connected state) (connected state) (connected state) 7200 - 8000 - 8500 - 18 dB Typ, 33 dB Min Isolation (Crosstalk between switches) 6000 - 8500 - 100 dB Typ, 85 dB Min Return Loss (Comport, active) 6000 - 7200 - 15.0 dB Typ Return Loss (Comport, active) 6000 - 7200 - 10.0 dB Typ Return Loss (Comport, active) 6000 - 7200 - 13.5 dB Typ Return Loss (any port to Com) 6000 - 7200 - 13.5 dB Typ Return Loss (any port to Com) 6000 - 8500 - 10.0 dB Typ Return Loss (any port to Com) 6000 - 8500 - 10.0 dB Typ Return Loss (any port to Com) 6000 - 8500 - 10.0 dB Typ Return Loss (any port to Com) 6000 - 8500 - 13.5 dB Typ Return Loss (any port to Com) 8000 - 8500 - 13.5 dB Typ Return Loss (any terminated port) 8000 - 8500 - 13.5 dB Typ IP3 6000 - 8500 - 13.5 dB Typ IP3 6000 - 8500 - 13.5 dB Typ Operating RF input power (through path // cold switching) 10 - 50 6000 - 8500 - 14.23 dBm @ 10 MHz +23 dBm @ 10 MHz 423 dBm @ 10 MHz +24 dBm Max 0perating RF input power (any terminated port) + (per port // hot switching) 6000 - 8500 - 14.23 dBm Max </td <td></td> <td>8000 - 8500</td> <td>_</td> <td>57 dB Typ, 45 dB Min</td>		8000 - 8500	_	57 dB Typ, 45 dB Min	
Isolation (bisconnected state) (connected state) (connected state) (connected state) (connected state) 7200 - 8000 - 8500 - 18 dB Typ, 33 dB Min Isolation (Crosstalk between switches) 6000 - 8500 - 100 dB Typ, 85 dB Min Return Loss (Comport, active) 6000 - 7200 - 15.0 dB Typ Return Loss (Comport, active) 6000 - 7200 - 10.0 dB Typ Return Loss (Comport, active) 6000 - 7200 - 13.5 dB Typ Return Loss (any port to Com) 6000 - 7200 - 13.5 dB Typ Return Loss (any port to Com) 6000 - 8500 - 10.0 dB Typ Return Loss (any port to Com) 6000 - 8500 - 10.0 dB Typ Return Loss (any port to Com) 6000 - 8500 - 10.0 dB Typ Return Loss (any port to Com) 6000 - 8500 - 13.5 dB Typ Return Loss (any port to Com) 8000 - 8500 - 13.5 dB Typ Return Loss (any terminated port) 8000 - 8500 - 13.5 dB Typ IP3 6000 - 8500 - 13.5 dB Typ IP3 6000 - 8500 - 13.5 dB Typ Operating RF input power (through path // cold switching) 10 - 50 6000 - 8500 - 14.23 dBm @ 10 MHz +23 dBm @ 10 MHz 423 dBm @ 10 MHz +24 dBm Max 0perating RF input power (any terminated port) + (per port // hot switching) 6000 - 8500 - 14.23 dBm Max </td <td></td> <td>6000 - 7200</td> <td>_</td> <td>24 dB Typ, 34 dB Min</td>		6000 - 7200	_	24 dB Typ, 34 dB Min	
It of 3's of any given switch) 8000 - 8500 - 18 dB Typ, 32 dB Min Isolation (Crosstalk between switches) 6000 - 8500 100 dB Typ, 85 dB Min Return Loss (Com port, active) 6000 - 7200 7200 - 8000 - 15.0 dB Typ Return Loss (Com port, active) 6000 - 7200 8000 - 8500 - 7.0 dB Typ Return Loss (any port to Com) 6000 - 7200 7200 - 8000 - 13.5 dB Typ Return Loss (any port to Com) 6000 - 8500 - 10.0 dB Typ Return Loss (any terminated port) 6000 - 8500 - 15.5 dB Typ Power input @1 dB compression 6000 - 8500 - +33 dBM Typ IP3 6000 - 8500 - +30 dBm @ 50 MHz to -50 dBM Typ 10 - 50 +30 dBm @ 50 MHz to +30 dBm @ 50 MHz to +30 dBm @ 50 MHz to +23 dBm @ 10 MHz +25 dBm @ 10 MHz +29 dBm Max Operating RF input power (any terminated port) + (per port // hot switching) 10 - 6000 +23 dBm Max +24 dBm Max 0perating temperature - 0°C to 50°C -10°C to 60°C		7200 - 8000	_		
Isolation (Crosstalk between switches) 6000 - 8500 100 dB Typ, 85 dB Min Return Loss (Com port, active) 6000 - 7200 7200 - 8000 – 15.0 dB Typ Return Loss (Com port, active) 6000 - 7200 8000 - 8500 – 7.0 dB Typ Return Loss (any port to Com) 6000 - 7200 7200 - 8000 – 13.5 dB Typ Return Loss (any port to Com) 6000 - 8500 – 8.5 dB Typ Return Loss (any terminated port) 8000 - 8500 – 15.5 dB Typ Power input @1 dB compression 6000 - 8500 – +33 dBM Typ IP3 6000 - 8500 – +50 dBM Typ Operating RF input power (through path // cold switching) 10 - 50 +30 dBm @ 50 MHz to +23 dBm Max +29 dBm Max Operating RF input power (any terminated port) + (per port // hot switching) 10 - 6000 +23 dBm Max +24 dBm Max Operating temperature – – 0°C to 50°C -10°C to 60°C	to J3 of any given switch)	8000 - 8500	_		
Return Loss (Com port, active) 7200 - 8000 8000 - 8500 – 10.0 dB Typ Return Loss (any port to Com) 6000 - 7200 7200 - 8000 – 13.5 dB Typ Return Loss (any port to Com) 7200 - 8000 8000 - 8500 – 10.0 dB Typ Return Loss (any terminated port) 6000 - 8000 8000 - 8500 – 10.0 dB Typ Power input @1 dB compression 6000 - 8500 – 15.5 dB Typ Power input @1 dB compression 6000 - 8500 – +33 dBM Typ IP3 6000 - 8500 – +50 dBM Typ Operating RF input power (through path // cold switching) 10 - 50 +30 dBm @ 50 MHz to +23 dBm @ 10 MHz +30 dBm @ 50 MHz to +25 dBm @ 10 MHz Operating RF input power (any terminated port) + (per port // hot switching) 10 - 6000 +23 dBm Max +24 dBm Max Operating temperature – 0°C to 50°C -10°C to 60°C		6000 - 8500			
$\begin{array}{c c c c c c c c c c c c c c c c c c c $		6000 - 7200	_	15.0 dB Typ	
Return Loss (any port to Com) 6000 - 7200 7200 - 8000 8000 - 8500 – 13.5 dB Typ 10.0 dB Typ Return Loss (any terminated port) 6000 - 8000 8000 - 8500 – 15.5 dB Typ Return Loss (any terminated port) 6000 - 8000 8000 - 8500 – 15.5 dB Typ Power input @1 dB compression 6000 - 8500 – +33 dBM Typ IP3 6000 - 8500 – +50 dBM Typ Operating RF input power (through path // cold switching) 10 - 50 +30 dBm @ 50 MHz to +23 dBm @ 10 MHz +25 dBm @ 10 MHz Operating RF input power (any terminated port) + (per port // hot switching) 10 - 6000 +23 dBm Max +24 dBm Max Operating temperature – 0°C to 50°C -10°C to 60°C		7200 - 8000	_	10.0 dB Typ	
Return Loss 7200 - 8000 – 10.0 dB Typ (any port to Com) 8000 - 8500 – 8.5 dB Typ Return Loss 6000 - 8000 – 15.5 dB Typ (any terminated port) 8000 - 8500 – 12.0 dB Typ Power input @1 dB compression 6000 - 8500 – +33 dBM Typ IP3 6000 - 8500 – +50 dBM Typ Operating RF input power 10 - 50 +30 dBm @ 50 MHz to +30 dBm @ 50 MHz to +30 dBm @ 10 MHz +25 dBm @ 10 MHz +25 dBm @ 10 MHz +25 dBm @ 10 MHz Operating RF input power 10 - 6000 +23 dBm Max +24 dBm Max Operating RF input power 10 - 6000 - +24 dBm Max Operating temperature – 0°C to 50°C -10°C to 60°C	(Com port, active)	8000 - 8500	—		
(any port to Com) 7200 - 8000 – 10.0 dB Typ Return Loss 6000 - 8500 – 8.5 dB Typ (any terminated port) 8000 - 8500 – 12.0 dB Typ Power input @1 dB compression 6000 - 8500 – 12.0 dB Typ IP3 6000 - 8500 – +33 dBM Typ Operating RF input power (through path // cold switching) 10 - 50 – +30 dBm @ 50 MHz to +23 dBm @ 10 MHz +25 dBm @ 10 MHz Operating RF input power (any terminated port) + 10 - 6000 +23 dBm Max +24 dBm Max Operating temperature – 0°C to 50°C -10°C to 60°C	Deturn Loop	6000 - 7200	—	13.5 dB Typ	
Return Loss 6000 - 8500 - 8.5 dB Typ (any terminated port) 8000 - 8500 - 15.5 dB Typ Power input @1 dB compression 6000 - 8500 - 12.0 dB Typ Power input @1 dB compression 6000 - 8500 - +33 dBM Typ IP3 6000 - 8500 - +50 dBM Typ Operating RF input power (through path // cold switching) 10 - 50 +30 dBm @ 50 MHz to +23 dBm @ 10 MHz +30 dBm @ 50 MHz to +25 dBm @ 10 MHz Operating RF input power (any terminated port) + (per port // hot switching) 10 - 6000 +23 dBm Max +24 dBm Max Operating temperature - 0°C to 50°C -10°C to 60°C		7200 - 8000	_	10.0 dB Typ	
(any terminated port) 8000 - 8500 – 12.0 dB Typ Power input @1 dB compression 6000 - 8500 – +33 dBM Typ IP3 6000 - 8500 – +50 dBM Typ Operating RF input power (through path // cold switching) 10 - 50 Power input @ 10 MHz Derates linearly from +30 dBm @ 50 MHz to +23 dBm @ 10 MHz +30 dBm @ 50 MHz to +25 dBm @ 10 MHz Operating RF input power (any terminated port) + (per port // hot switching) 10 - 6000 +23 dBm Max +24 dBm Max Operating temperature – 0°C to 50°C -10°C to 60°C	(any port to Com)	8000 - 8500	—	8.5 dB Typ	
Power input @ 1 dB compression6000 - 8500-+33 dBM TypIP36000 - 8500-+50 dBM TypOperating RF input power (through path // cold switching)10 - 50Derates linearly from +30 dBm @ 50 MHz to +23 dBm @ 10 MHzDerates linearly from +30 dBm @ 50 MHz to +23 dBm @ 10 MHzOperating RF input power (any terminated port) + (per port // hot switching)10 - 6000+23 dBm Max+24 dBm MaxOperating temperature-0°C to 50°C-10°C to 60°C	Return Loss	6000 - 8000	—	15.5 dB Typ	
IP36000 - 8500-+50 dBM TypOperating RF input power (through path // cold switching)10 - 50Derates linearly from +30 dBm @ 50 MHz to +23 dBm @ 10 MHzDerates linearly from +30 dBm @ 50 MHz to +23 dBm @ 10 MHzOperating RF input power (any terminated port) + (per port // hot switching)10 - 6000+23 dBm Max+24 dBm MaxOperating temperature-0°C to 50°C-10°C to 60°C	(any terminated port)	8000 - 8500	—	12.0 dB Typ	
Operating RF input power (through path // cold switching)10 - 50Derates linearly from +30 dBm @ 50 MHz to +23 dBm @ 10 MHzDerates linearly from +30 dBm @ 50 MHz to +25 dBm @ 10 MHzOperating RF input power (any terminated port) + (per port // hot switching)10 - 6000+23 dBm Max+24 dBm MaxOperating temperature-0°C to 50°C-10°C to 60°C			—		
Operating RF input power (through path // cold switching)10 - 50+30 dBm @ 50 MHz to +23 dBm @ 10 MHz+30 dBm @ 50 MHz to +25 dBm @ 10 MHzOperating RF input power (any terminated port) + (per port // hot switching)10 - 6000+23 dBm Max+24 dBm MaxOperating temperature-0°C to 50°C-10°C to 60°C	IP3	6000 - 8500	—	+50 dBM Typ	
(through path // cold switching) +23 dBm @ 10 MHz +25 dBm @ 10 MHz Operating RF input power (any terminated port) + (per port // hot switching) 10 - 6000 +23 dBm Max +24 dBm Max Operating temperature - 0°C to 50°C - +24 dBm Max					
6000 - 8500 - +29 dBm Max Operating RF input power (any terminated port) + (per port // hot switching) 10 - 6000 +23 dBm Max +24 dBm Max Operating temperature 6000 - 8500 - +24 dBm Max Operating temperature - 0°C to 50°C -10°C to 60°C		10 - 50			
Operating RF input power (any terminated port) + (per port // hot switching)10 - 6000+23 dBm Max+24 dBm Max6000 - 8500-+24 dBm MaxOperating temperature-0°C to 50°C-10°C to 60°C	(through path // cold switching)		+23 dBm @ 10 MHz		
(any terminated port) + (per port // hot switching)10 - 0000+23 dbin Max+24 dbin MaxOperating temperature+24 dBm Max		6000 - 8500	—	+29 dBm Max	
(per port // hot switching) 6000 - 8500 - +24 dBm Max Operating temperature - 0°C to 50°C -10°C to 60°C			+23 dBm Max	+24 dBm Max	
Operating temperature – 0°C to 50°C -10°C to 60°C		6000 - 8500	—	+24 dBm Max	
		_	0°C to 50°C	-10°C to 60°C	
	Storage temperature	_	-20°C to 60°C		

Compared to the USB-2SP4T-63H, the USB-2SP4T-852H has the following differences:

- Electrical specification has been extended for the 6000 8500 MHz frequency range.
- Improvement in operating RF input power.
- Improvement in operating and storage temperatures.

Overall, users can expect USB-2SP4T-852H to perform the same as USB-2SP4T-63H in the original 10 - 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.



3. TYPICAL PERFORMANCE GRAPHS









4 CONCLUSION

USB-2SP4T-852H manages to provide the same performance level as that of USB-2SP4T-63H in the original 10 - 6000 MHz frequency range all while performing within an expanded operating temperature range.

Additionally, users will find the USB-2SP4T-852H to be better suitable for modern applications due to extending the supported frequency range from 6000 MHz to 8500 MHz.

This makes the USB-2SP4T-852H an excellent replacement for the USB-2SP4T-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.