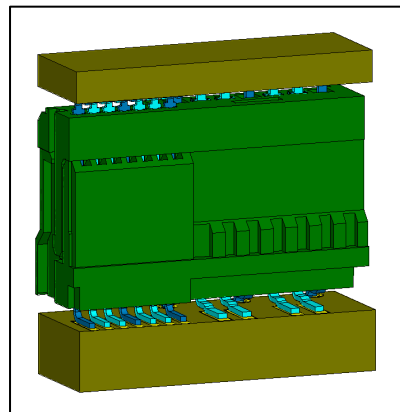




# ELECTRICAL MODEL DOCUMENTATION

## MODEL SUMMARY

S-parameter model of SAS vertical surface mount plug mated with SAS vertical hybrid receptacle. The model generated includes solder pads and FR4 effects.



## APPLICABLE PART NUMBERS:

878390011, 878390017, 878390018, 878390019, 878390039, 781641001, 781641051

<b>MODEL FILENAME:</b> spm78164_87839_revA_wp.s16p	
<b>MODEL TYPE:</b> SPM	<b>STRUCTURE:</b> Assembly
<b>MODEL SOURCE:</b> Simulation	<b>VALIDATION:</b> No
<b>NUMBER OF PORTS:</b> 16	<b>MAXIMUM FREQUENCY:</b> 15 GHz

**DISCLAIMERS:** Information contained in this document is simulated. Molex Incorporated does not guarantee the performance of the final product to the information provided in this document.

Molex does not represent, warrant or guarantee the accuracy of the information, expressly disclaims all warranties including the implied warranties of merchantability and fitness for particular purpose, and shall not be liable for any damages whatsoever arising from use of, or inability to use, the information contained in this document or accompanying electronic file.

The user is responsible for verifying the results of their use of this information, and assumes all risk of doing or not doing so. Use of the electronic file evidences user's agreement to the above terms.

Any charts or schematics in this report are only for general reference. The schematic allows the user to configure a similar simulation circuit in any simulation tool. The resulting charts provided allow a comparison of results to the Molex simulation using the stated schematic.

<b>REVISION:</b> <b>A</b>	<b>ECN INFORMATION:</b> <b>EC No: S2009-0645</b> <b>DATE: 2009/02/27</b>	<b>TITLE:</b> <b>SAS Vertical Surface Mount Plug Mated with</b> <b>SAS Vertical Hybrid Receptacle</b> <b>78164-10*1 Mated With 87839-00**</b> <b>MOLEX CONFIDENTIAL</b>	<b>SHEET No.</b> <b>1 of 5</b>
<b>DOCUMENT NUMBER:</b> <b>EE-87839-001</b>	<b>CREATED / REVISED BY:</b> <b>CMWONG 2009/02/27</b>	<b>CHECKED BY:</b> <b>WTCHUA 2009/03/05</b>	<b>APPROVED BY:</b> <b>ACHEAH 2009/03/05</b>
TEMPLATE FILENAME: SPM[SIZE_A](V.1).DOC			



# ELECTRICAL MODEL DOCUMENTATION

## CONDUCTOR TO PORT MAPPING TABLE

### SIGNAL PATHS

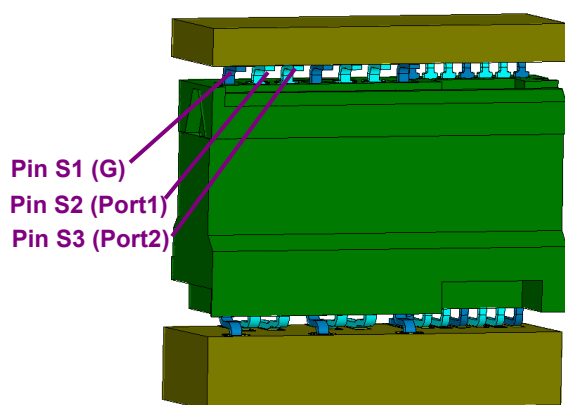
Conductor	Ports
S2	1,9
S3	2,10
S5	3,11
S6	4,12

Conductor	Ports
S9	5,13
S10	6,14
S12	7,15
S13	8,16

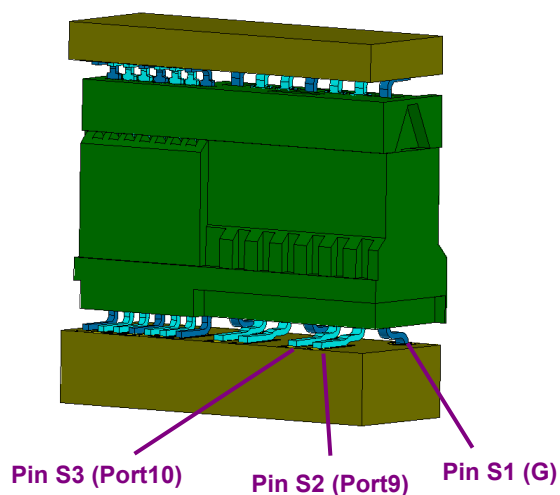
### PRE-DEFINED RETURN PATHS

Conductor	Label
S1	G
S4	G
S7	G
S8	G
S11	G
S14	G

## PART ILLUSTRATIONS



View A



View B

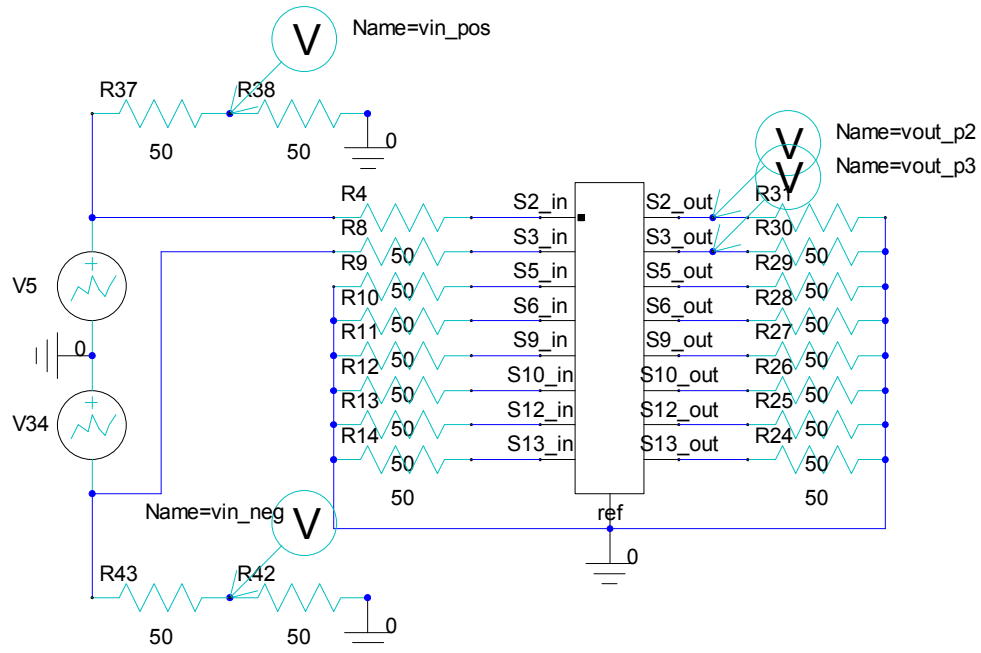
REVISION: <b>A</b>	ECN INFORMATION: EC No: <b>S2009-0645</b> DATE: <b>2009/02/27</b>	TITLE: <b>SAS Vertical Surface Mount Plug Mated with SAS Vertical Hybrid Receptacle 78164-10*1 Mated With 87839-00** MOLEX CONFIDENTIAL</b>	SHEET No. <b>2 of 5</b>
DOCUMENT NUMBER: <b>EE-87839-001</b>	CREATED / REVISED BY: <b>CMWONG 2009/02/27</b>	CHECKED BY: <b>WTCHUA 2009/03/05</b>	APPROVED BY: <b>ACHEAH 2009/03/05</b>
TEMPLATE FILENAME: SPM[SIZE_A](V.1).DOC			



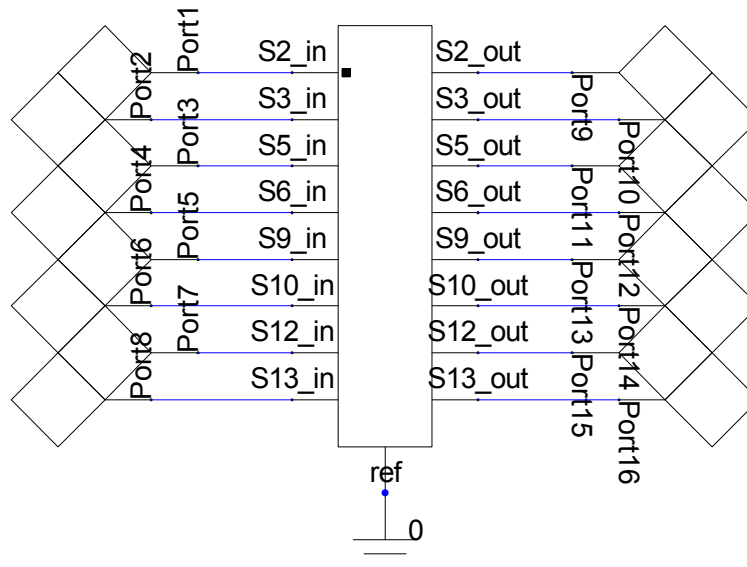
# ELECTRICAL MODEL DOCUMENTATION

## REFERENCE SCHEMATICS

### Time Domain Schematic



### Frequency Domain Schematic



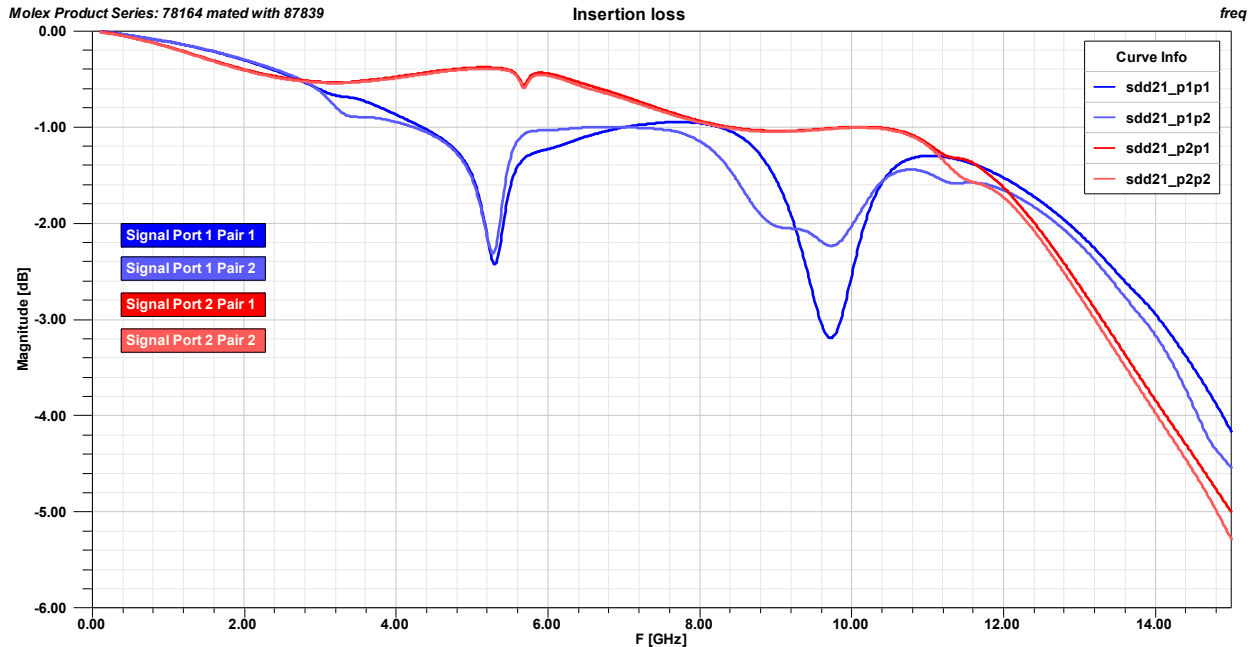
REVISION:	ECN INFORMATION:	TITLE:	SHEET No.
<b>A</b>	EC No: <b>S2009-0645</b> DATE: <b>2009/02/27</b>	<b>SAS Vertical Surface Mount Plug Mated with SAS Vertical Hybrid Receptacle 78164-10*1 Mated With 87839-00** MOLEX CONFIDENTIAL</b>	<b>3 of 5</b>
DOCUMENT NUMBER:	CREATED / REVISED BY:	CHECKED BY:	APPROVED BY:
<b>EE-87839-001</b>	<b>CMWONG 2009/02/27</b>	<b>WTCHUA 2009/03/05</b>	<b>ACHEAH 2009/03/05</b>
TEMPLATE FILENAME: SPM[SIZE_A](V.1).DOC			



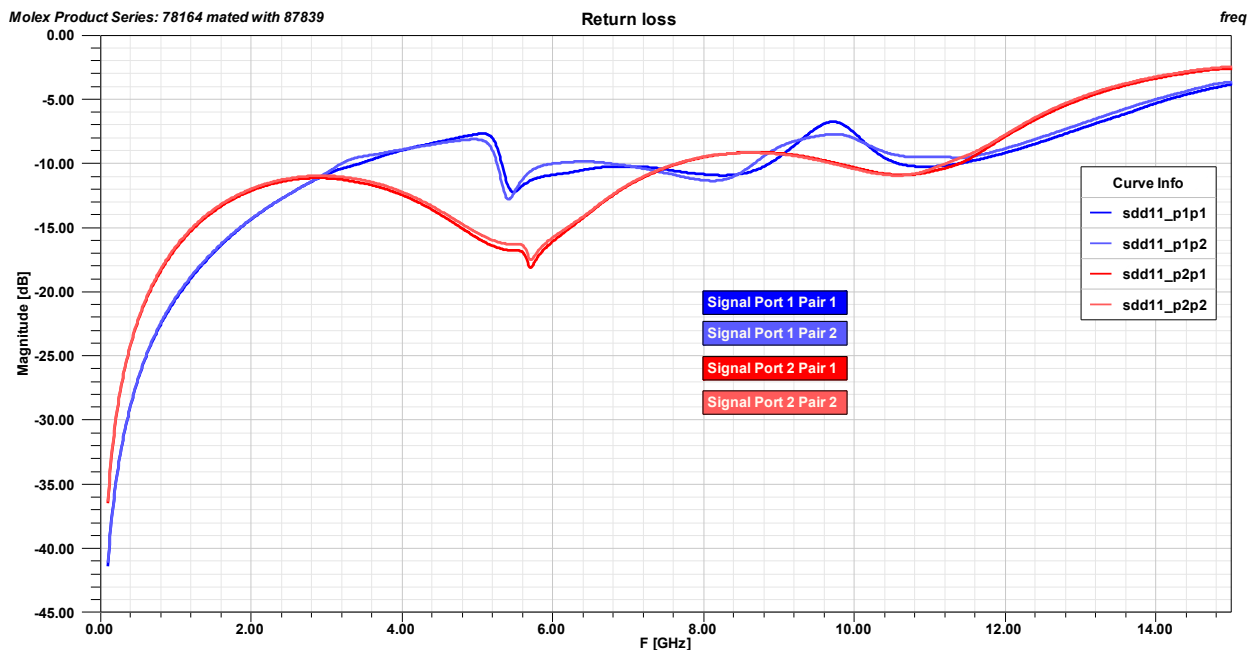
# ELECTRICAL MODEL DOCUMENTATION

## REFERENCE RESULTS

### Insertion Loss



### Return Loss



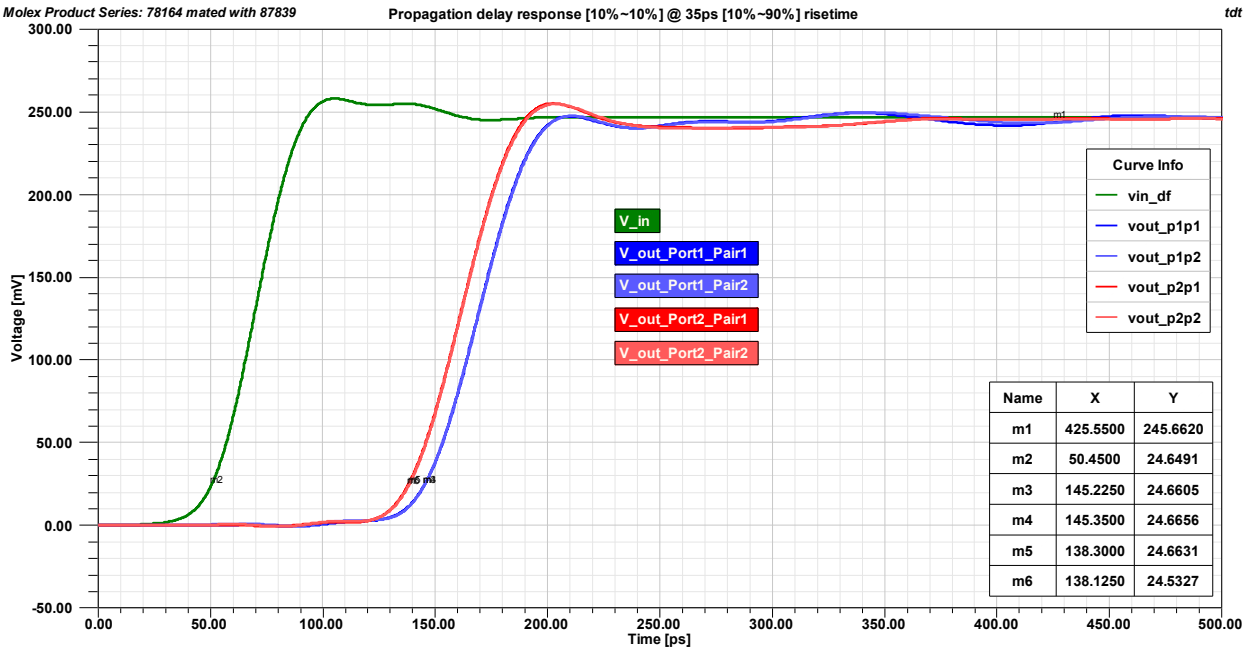
REVISION:	ECN INFORMATION:	TITLE:	SHEET No.
<b>A</b>	EC No: <b>S2009-0645</b> DATE: <b>2009/02/27</b>	<b>SAS Vertical Surface Mount Plug Mated with SAS Vertical Hybrid Receptacle 78164-10*1 Mated With 87839-00** MOLEX CONFIDENTIAL</b>	<b>4 of 5</b>
DOCUMENT NUMBER:	CREATED / REVISED BY:	CHECKED BY:	APPROVED BY:
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TEMPLATE FILENAME: SPM[SIZE_A](V.1).DOC			



# ELECTRICAL MODEL DOCUMENTATION

## REFERENCE RESULTS

### Time Domain Response



REVISION:	ECN INFORMATION:	TITLE:	SHEET No.
A	EC No: S2009-0645 DATE: 2009/02/27	SAS Vertical Surface Mount Plug Mated with SAS Vertical Hybrid Receptacle 78164-10*1 Mated With 87839-00** MOLEX CONFIDENTIAL	5 of 5
DOCUMENT NUMBER:	CREATED / REVISED BY:	CHECKED BY:	APPROVED BY:
EE-87839-001	CMWONG 2009/02/27	WTCHUA 2009/03/05	ACHEAH 2009/03/05
TEMPLATE FILENAME: SPM[SIZE_A](V.1).DOC			