DUAL 4-INPUT EXPANDER

MC933F • MC833F, P

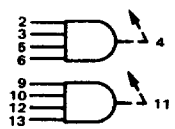
DUAL 4-3 INPUT EXPANDER

MC933G • MC833G

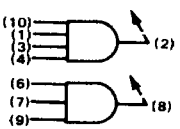
MDTL MC930/830 series

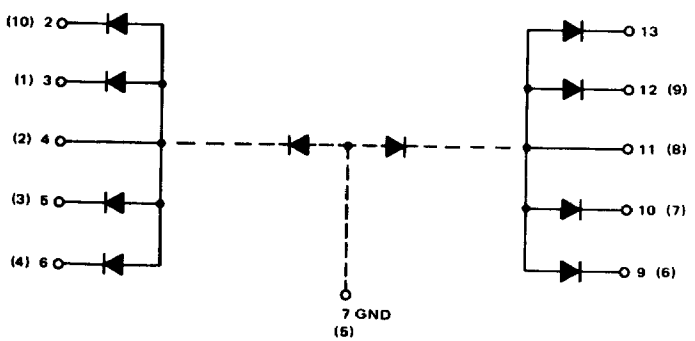
This dual expander consists of two independent diode networks with characteristics matched to the input diodes of the gate and buffer elements in this logic family. Its use increases the fan-in capability of other MDTL devices to a maximum of 20 while only slightly affecting performance.

MC933F/MC833F, P



MC933G/MC833G





Number at end of terminal represents pin number for flat and dual in-line packages. Number in parenthesis indicates pin number for metal can.

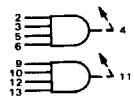
MDM 20

ELECTRICAL CHARACTERISTICS

Test procedures are shown for only one expander. The other expander is tested in the same manner.

NOTE: Although the test conditions and test limits are the same for devices in ALL available packages, the table shows pin connections for testing only the flat and dual in-line packaged devices. To test devices in the metal can, substitute pin numbers shown in the conversion table below.

PACKAGE	PIN NUMBER													
Flat/Dual In-Line	–	2	3	4	5	6	7	–	9	10	11	12	13	–
Metal Can	–	10	1	2	3	4	5	–	6	7	8	9	–	–



Characteristic	Symbol	Pin Under Test	MC933 Test Limits −55°C Min	MC933 Test Limits −55°C Max	MC933 Test Limits +25°C Min	MC933 Test Limits +25°C Max	MC933 Test Limits +125°C Min	MC933 Test Limits +125°C Max	Unit	MC833 Test Limits 0°C Min	MC833 Test Limits 0°C Max	MC833 Test Limits +25°C Min	MC833 Test Limits +25°C Max	MC833 Test Limits +75°C Min	MC833 Test Limits +75°C Max	Unit	TEST CURRENT / VOLTAGE VALUES (All Temperatures) mA I_{FD}	TEST CURRENT / VOLTAGE VALUES (All Temperatures) Volts V_R	TEST CURRENT / VOLTAGE APPLIED TO PINS LISTED BELOW: I_{FD}	TEST CURRENT / VOLTAGE APPLIED TO PINS LISTED BELOW: V_R	TEST CURRENT / VOLTAGE APPLIED TO PINS LISTED BELOW: Gnd
																	2.00	4.00		
Forward Voltage	V_{FD}	4	–	0.98	–	0.82	–	0.65	Vdc	–	0.90	–	0.82	–	0.75	Vdc	4	–	–	2,7
			–		–		–			–		–		–				–	–	3,7
			–		–		–			–		–		–				–	–	5,7
			–		–		–			–		–		–				–	–	6,7
			0.85	–	0.70	–	0.50	–		0.75	–	0.68	–	0.60	–			–	–	2,3,5,6,7
Reverse Current	I_R	2	–	2.0	–	2.0	–	5.0	μAdc	–	5.0	–	5.0	–	10	μAdc	–	2	–	3,5,6,7
		3	–		–		–			–		–		–			–	3	–	2,5,6,7
		5	–		–		–			–		–		–			–	5	–	2,3,6,7
		6	–		–		–			–		–		–			–	6	–	2,3,5,7
	$5\ I_R$	4	–	10	–	10	–	25		–	–	–	–	–	–		–	4	–	7
	$2\ I_R$	4	–	–	–	–	–	–		–	–	–	10	–	–		–	4	–	7

Pins not listed are left open.

PRODUCT DOCUMENTATION

The three documents listed in the following table are required for a complete description of the DSP56301 and are necessary to design properly with the part. Documentation is available from one of the following locations (see back cover for detailed information):

- A local Motorola distributor
- A Motorola semiconductor sales office
- A Motorola Literature Distribution Center
- The World Wide Web (WWW)

See the **Additional Support** section of the *DSP56300 Family Manual* for detailed information on the multiple support options available to you.

Table 1 DSP56301 Documentation

Name	Description	Order Number
DSP56300 Family Manual	Detailed description of the DSP56300 family processor core and instruction set	DSP56300FM/AD
DSP56301 User's Manual	Detailed functional description of the DSP56301 memory configuration, operation, and register programming	DSP56301UM/AD
DSP56301 Technical Data	DSP56301 features list and physical, electrical, timing, and package specifications	DSP56301/D