

SCOPE: DUAL-POWER MOSFET DRIVER

<u>Device Type</u>	<u>Generic Number</u>	<u>SMD Number</u>
01	ICL7667M(x)/883B	5962-87660

Case Outline(s). The case outlines shall be designated in Mil-Std-1835 and as follows:

<u>Outline Letter</u>		<u>Mil-Std-1835</u>	<u>Case Outline</u>	<u>Package Code</u>
<u>SMD</u>	<u>MAXIM</u>			
G	TV	MACY1-X8	8 LEAD CAN	TO99
P	JA	GDIP1-T8 or CDIP2-T8	8 LEAD CERDIP	J8

Absolute Maximum Ratings

V_{DD} to GND	18V
Input Voltage	($V_{DD} + 0.3V$) to (GND - 0.3V)
Lead Temperature (soldering, 10 seconds)	+300°C
Storage Temperature	-65°C to +150°C
Continuous Power Dissipation	$T_A = +70^\circ C$
8 lead CERDIP (derate 8.0mW/°C above +70°C)	640mW
8 lead CAN (derate 6.7mW/°C above +70°C)	533mW
Junction Temperature T_J	+150°C
Thermal Resistance, Junction to Case, θ_{JC} :	
Case Outline 8 lead CERDIP	55°C/W
Case Outline 8 lead CAN	45°C/W
Thermal Resistance, Junction to Ambient, θ_{JA} :	
Case Outline 8 lead CERDIP	125°C/W
Case Outline 8 lead CAN	150°C/W

Recommended Operating Conditions.

Ambient Operating Range (T_A)	-55°C to +125°C
V_{DD}	+4.5Vdc to 15.5Vdc

Stresses beyond those listed under “Absolute Maximum Ratings” may cause permanent damage to the device. These are stress ratings only, and functional operation of the device at these or any other conditions beyond those indicated in the operational sections of the specifications is not implied. Exposure to absolute maximum rating conditions for extended periods may affect device reliability.

TABLE 1. ELECTRICAL TESTS

TEST	Symbol	CONDITIONS -55 °C ≤ T _A ≤ +125 °C V _{DD} = +15V Unless otherwise specified	Group A Subgroup	Device type	Limits Min	Limits Max	Units
SWITCH							
Logic 1 Input Voltage	V _{IH}	V _{DD} = 4.5V	1,2,3	All	2.0		V
		V _{DD} = 15V			2.0		
Logic 0 Input Voltage	V _{IL}	V _{DD} = 4.5V	1 2,3	All		0.8 0.5	V
		V _{DD} = 15V	1,2,3			0.8	
Input Current	I _{IN}	V _{DD} = 15V, V _{IN} = 0V and 15V	1,2,3	All	-0.1	0.1	μA
Output Voltage High	V _{OH}	V _{DD} = 4.5V and 15V	1 2,3	All	V _{CC} - .05 V _{CC} - 0.1		V
Output Voltage Low	V _{OL}	V _{DD} = 4.5V and 15V	1 2,3	All		.05 0.1	V
Output Resistance	R _{OUT}	V _{IN} = V _{IL} , I _{OUT} = +10mA, V _{CC} = 15V	1 2,3	All		10 12	Ω
Output Resistance	R _{OUT}	V _{IN} = V _{IH} , I _{OUT} = -10mA, V _{CC} = 15V	1 2,3	All		12 13	Ω
Power-Supply Current	I _{CC}	V _{IN} = 0V, both inputs	1,2,3	All		0.4	mA
		V _{IN} = 3V, both inputs	1 2,3	All		7 8	
Delay Time	t _{D1}	Figure 1	9 10,11	All		30 40	ns
	t _{D2}	Figure 1	9 10,11	All		50 60	ns
Rise Time	t _R	Figure 1	9 10,11	All		30 40	ns
Fall Time	t _F	Figure 1	9 10,11	All		30 40	ns

FIGURE 1: Timing Diagram/Test Circuit. See Commercial Datasheet.

ORDERING	INFORMATION:			Terminal	ICL7667	ICL7667
	Maxim #	Pkg.		Number	J8	TO99
5962-8766001PA	ICL7667MJA/883B	J8		1	NC	OUTA
5962-8766001GC	ICL7667MTV/883B	TO99		2	INA	NC
				3	V-	INA
				4	INB	V-
				5	OUTB	INB
				6	V _{DD}	NC
				7	OUTA	OUTB
				8	NC	V _{DD}

QUALITY ASSURANCE

Sampling and inspection procedures shall be in accordance with MIL-Prf-38535, Appendix A as specified in Mil-Std-883.

Screening shall be in accordance with Method 5004 of Mil-Std-883. Burn-in test Method 1015:

1. Test Condition, A, B, C, or D.
2. TA = +125°C minimum.
3. Interim and final electrical test requirements shall be specified in Table 2.

Quality conformance inspection shall be in accordance with Method 5005 of Mil-Std-883, including Groups A, B, C, and D inspection.

Group A inspection:

1. Tests as specified in Table 2.
2. Selected subgroups in Table 1, Method 5005 of Mil-Std-883 shall be omitted.

Group C and D inspections:

- a. End-point electrical parameters shall be specified in Table 1.
- b. Steady-state life test, Method 1005 of Mil-Std-883:
 1. Test condition A, B, C, D.
 2. TA = +125°C, minimum.
 3. Test duration, 1000 hours, except as permitted by Method 1005 of Mil-Std-883.

TABLE 2. ELECTRICAL TEST REQUIREMENTS

Mil-Std-883 Test Requirements	Subgroups per Method 5005, Table 1
Interim Electric Parameters Method 5004	1
Final Electrical Parameters Method 5005	1*, 2, 3, 9
Group A Test Requirements Method 5005	1, 2, 3, 9, 10, 11
Group C and D End-Point Electrical Parameters Method 5005	1

* PDA applies to Subgroup 1 only.