



M.S.KENNEDY CORP.

# VERY HIGH LEVEL DIGITAL DRIVER

# 0008

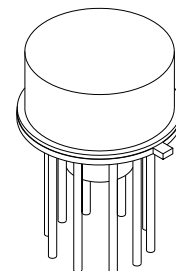
4707 Dey Road Liverpool, N.Y. 13088

(315) 701-6751

**MIL-PRF-38534 QUALIFIED**

**FEATURES:**

- Single Supply Operation From 10V to 45V
- Replaces NH/DH0008
- 'And' Input Logic With Expander
- External Transition Time Control
- Output Current to 3A Peak
- Available to DSCC SMD 5962-87617

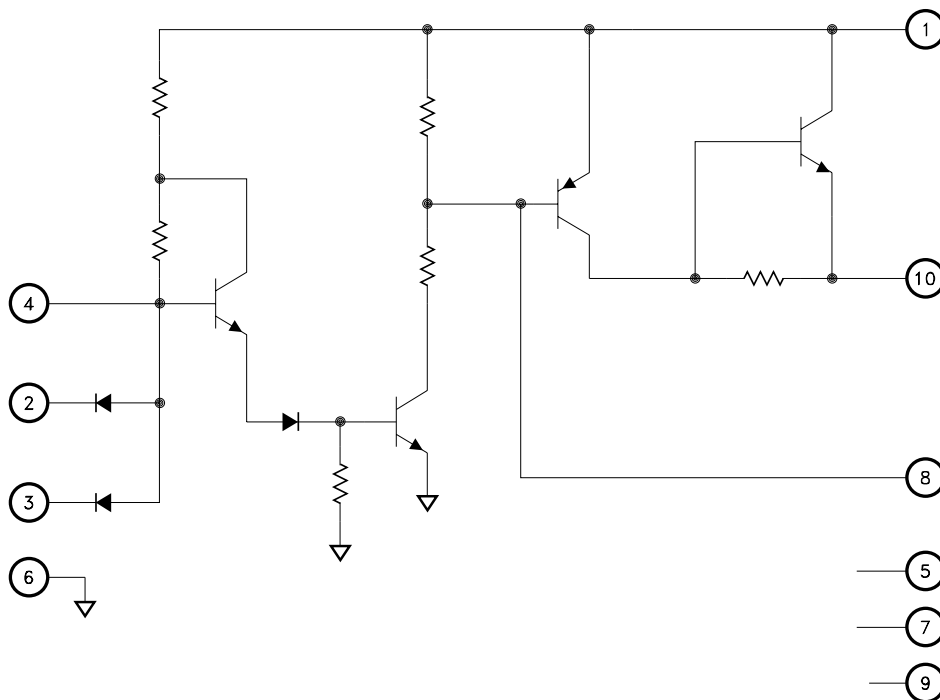


**MSK0008**

**DESCRIPTION:**

The MSK 0008 is an integrated high voltage, high current driver designed to accept standard DTL or TTL logic levels and drive a pulsed load of up to 3A at 28V. AND inputs are provided along with an Expander connection, should additional gating be required. The addition of an external capacitor and resistor provides control of the rise and fall times of the output. The device is packaged in a hermetic 10 pin can.

**EQUIVALENT SCHEMATIC**



**TYPICAL APPLICATIONS**

- Logic Level Translator
- Relay Driver
- Lamp Driver
- High Level Line Driver

**PIN-OUT INFORMATION**

- |            |                         |
|------------|-------------------------|
| 1 Vcc      | 10 Output               |
| 2 Input    | 9 NC                    |
| 3 Input    | 8 Response Time Control |
| 4 Expander | 7 NC                    |
| 5 NC       | 6 Ground                |

## ABSOLUTE MAXIMUM RATINGS

V <sub>CC</sub>	Supply Voltage (t ≤ 0.1 sec) . . . . .	60V	T <sub>ST</sub>	Storage Temperature Range	-65°C to +150°C
I <sub>OUT</sub>	Output Current (50mS) . . . . .	3A	T <sub>LD</sub>	Lead Temperature Range . . . . .	300°C
V <sub>IN</sub>	Input Voltage . . . . .	5.5V		(10 Seconds)	
I <sub>IN</sub>	Expander Input Current . . . . .	5mA	T <sub>C</sub>	Case Operating Temperature	
				(MSK 0008H/E) . . . . .	-55°C to +125°C
				(MSK 0008) . . . . .	-40°C to +85°C
			T <sub>J</sub>	Junction Temperature . . . . .	175°C

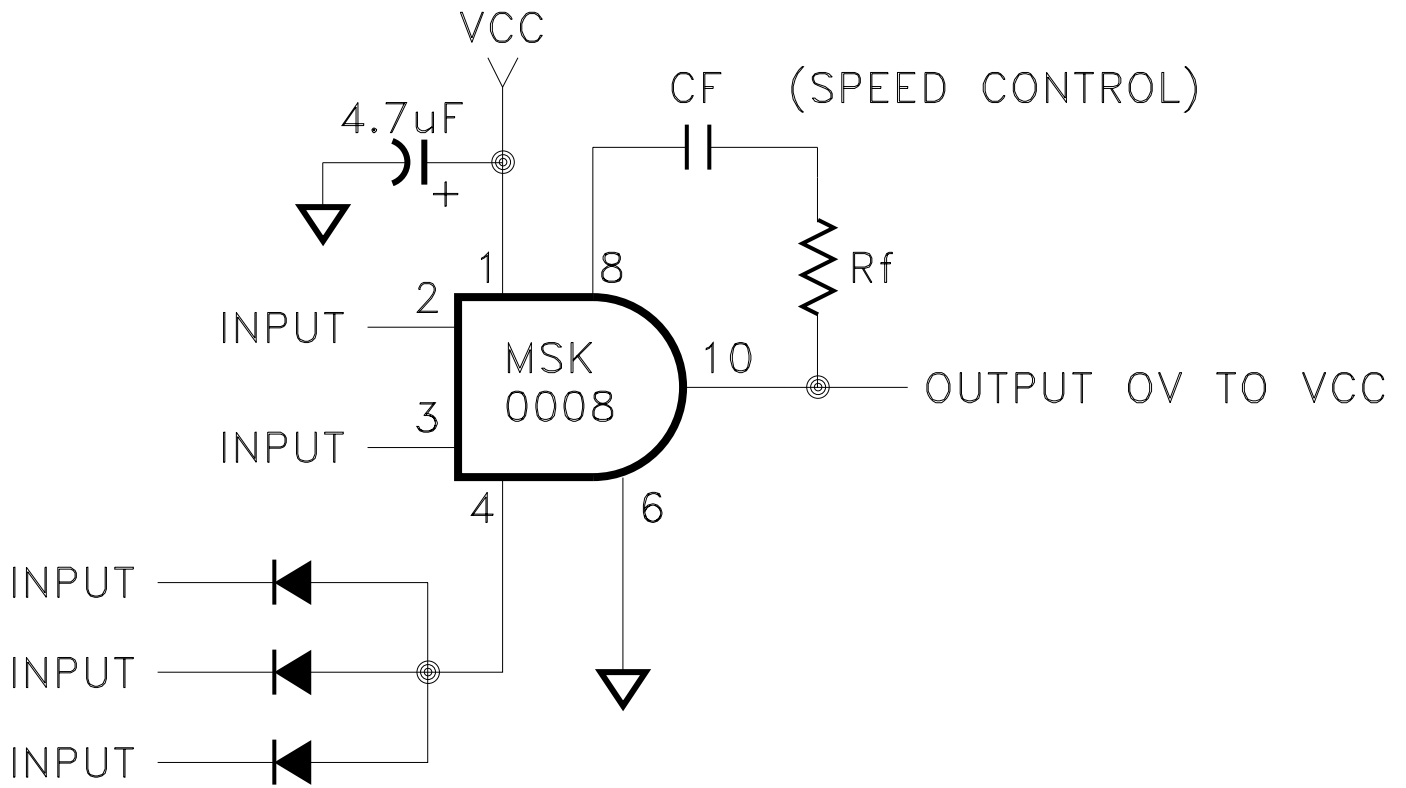
## ELECTRICAL SPECIFICATIONS

Parameter	Test Conditions ①	Group A Subgroup	MSK0008H/E			MSK0008			Units
			Min.	Typ.	Max.	Min.	Typ.	Max.	
Power Supply Range ②	Continuous	-	10	28	45	10	28	45	V
Logic 1 Input Voltage ②	10V ≤ V <sub>CC</sub> ≤ 45V	1,2,3	2.0	-	5.5	2.0	-	5.5	V
Logic 0 Input Voltage ②	10V ≤ V <sub>CC</sub> ≤ 45V	1,2,3	-	-	0.8	-	-	0.8	V
Logic 1 Output Voltage	V <sub>CC</sub> = 28V V <sub>IN</sub> = 2V R <sub>L</sub> = 39Ω	1,2,3	26.5	27	-	26	27	-	V
	② V <sub>CC</sub> = 45V V <sub>IN</sub> = 2V I <sub>O</sub> = 1.6A	1,2,3	43	43.5	-	42.5	43.5	-	V
Logic 0 Output Voltage	V <sub>IN</sub> = 0.8V R <sub>L</sub> = 100Ω	1,2,3	-	25	100	-	25	125	mV
Logic 1 Input Current ②	V <sub>IN</sub> = 2.4V	1,2,3	-	1	5	-	1	10	μA
	V <sub>IN</sub> = 5.5V	1,2,3	-	25	100	-	25	150	μA
Logic 0 Input Current ②	V <sub>IN</sub> = 0.4V	1,2,3	-1.0	-	-	-1.1	-	-	mA
Off Supply Current	V <sub>IN</sub> = 0V	1,2,3	-	0.5	2.0	-	0.5	2.2	mA
On Supply Current	V <sub>IN</sub> = 2.0V	1,2,3	-	6	8	-	6	8.5	mA
Rise Time	V <sub>CC</sub> = 28V R <sub>L</sub> = 39Ω	4	-	200	500	-	200	550	nS
Fall Time	V <sub>CC</sub> = 28V R <sub>L</sub> = 39Ω	4	-	3	4.0	-	3	4.2	μS
Turn On Time ②⑦	V <sub>CC</sub> = 28V R <sub>L</sub> = 39Ω	4	-	0.6	1.0	-	0.6	1.1	μS
Turn Off Time ②⑦	V <sub>CC</sub> = 28V R <sub>L</sub> = 39Ω	4	-	8	10	-	8	10.2	μS
Thermal Resistance ②	Junction to Case @ T <sub>C</sub> = 125°C	-	-	25	35	-	25	40	°C/W

### NOTES:

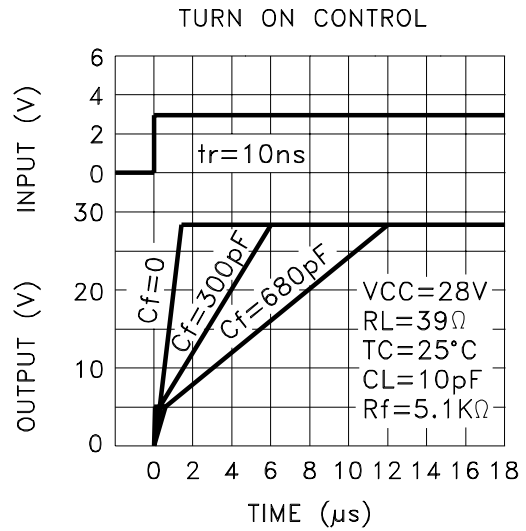
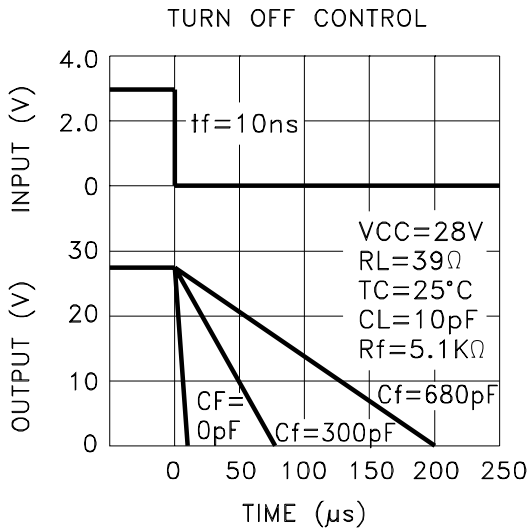
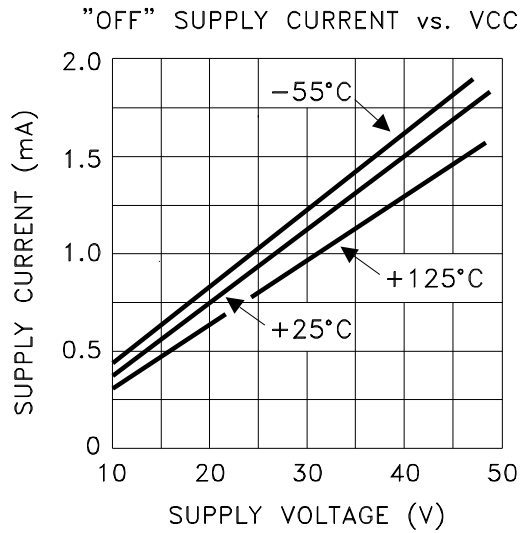
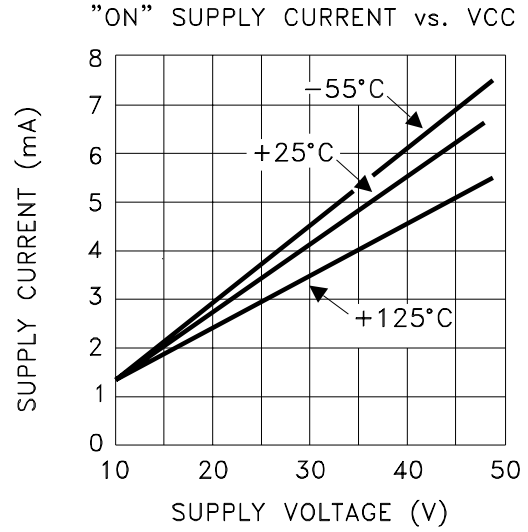
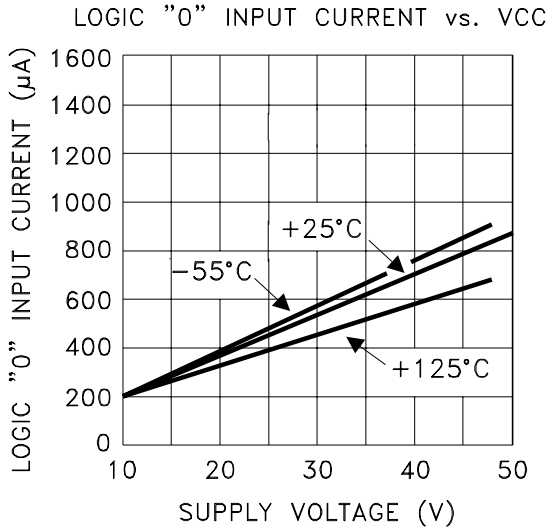
- ① V<sub>CC</sub> = 45V, Cf/Rf = NC and I<sub>OUT</sub> = 0mA unless otherwise specified.
- ② Guaranteed by design but not tested. Typical parameters are representative of actual device performance at 25°C but are for reference only.
- ③ Industrial grade and "E" suffix devices shall be tested to subgroups 1 and 4 unless otherwise requested.
- ④ Military grade devices ("H" suffix) shall be 100% tested to subgroups 1,2,3 and 4.
- ⑤ Subgroup 5 and 6 testing available upon request.
- ⑥ Subgroup 1,4 T<sub>C</sub> = +25°C  
Subgroup 2,5 T<sub>C</sub> = +125°C  
Subgroup 3,6 T<sub>A</sub> = -55°C
- ⑦ Measured from 50% of V<sub>IN</sub> to 90% of V<sub>OUT</sub> transition.

**APPLICATION NOTES**

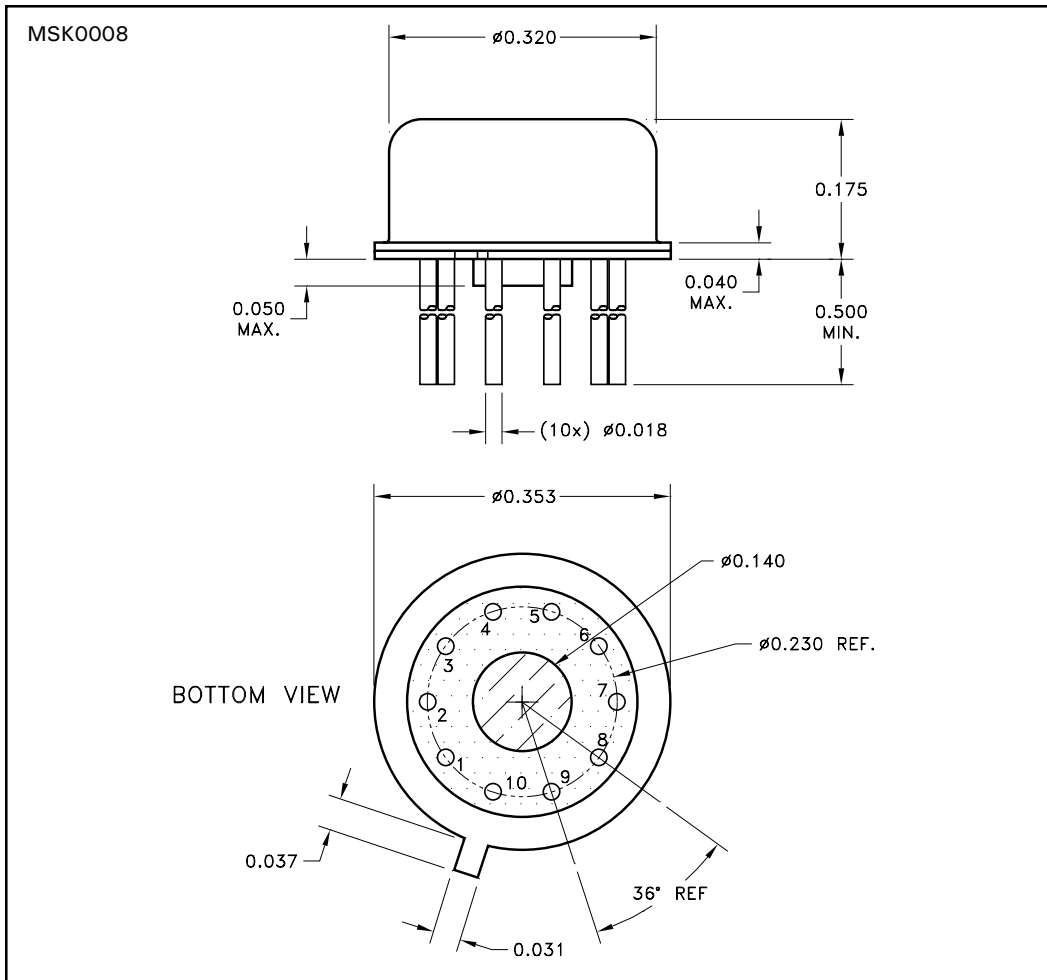


APPLICATION DIAGRAM

# TYPICAL PERFORMANCE CURVES



# MECHANICAL SPECIFICATIONS



ESD TRIANGLE INDICATES PIN 1.  
ALL DIMENSIONS ARE  $\pm 0.010$  INCHES UNLESS OTHERWISE LABELED.

## ORDERING INFORMATION

Part Number	Screening Level
MSK0008	Industrial
MSK0008E	Extended Reliability
MSK0008H	Mil-PRF-38534 Class H
5962-8761702X	DSCC-SMD

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