



M.S.KENNEDY CORP.

# HIGH LEVEL DIGITAL DRIVER

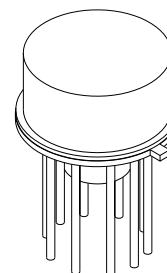
0006

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## FEATURES:

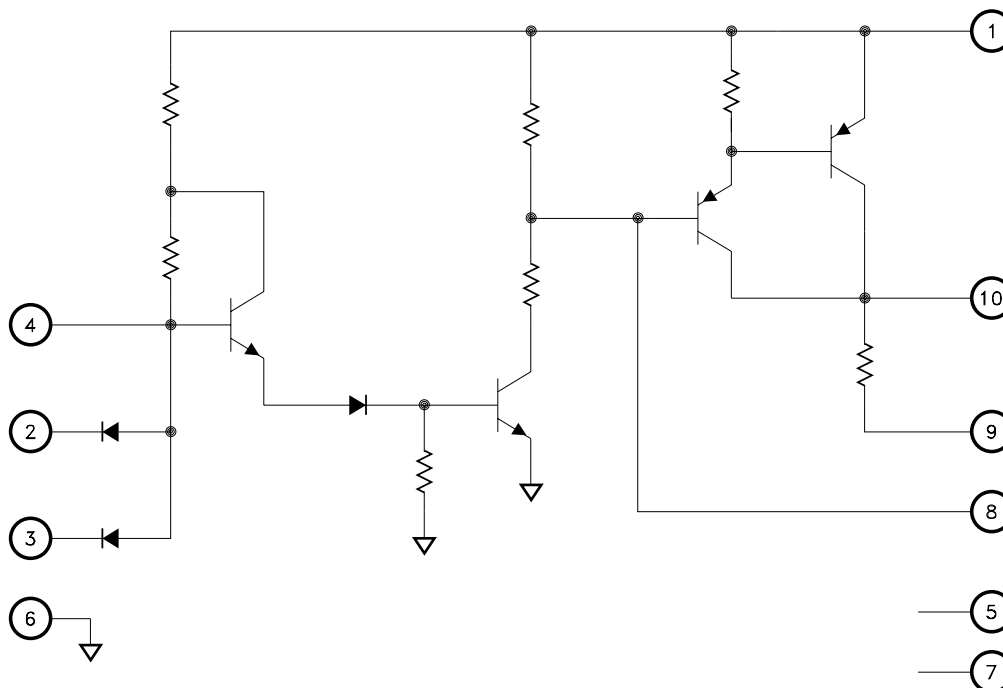
- Single Supply Operation From 10V to 45V
- Replaces NH/DH0006
- 'And' Input Logic With Expander
- External Transition Time Control
- Output Current to 400mA
- Available to DSCC SMD 5962-87617

**MIL-PRF-38534 QUALIFIED****MSK0006**

## DESCRIPTION:

The MSK 0006 is an integrated high voltage, high current driver designed to accept standard DTL or TTL logic levels and drive a load of up to 400 mA at 28V. AND inputs are provided along with an Expander connection, should additional gating be required. The addition of an external capacitor 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

## PIN-OUT INFORMATION

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

## ABSOLUTE MAXIMUM RATINGS

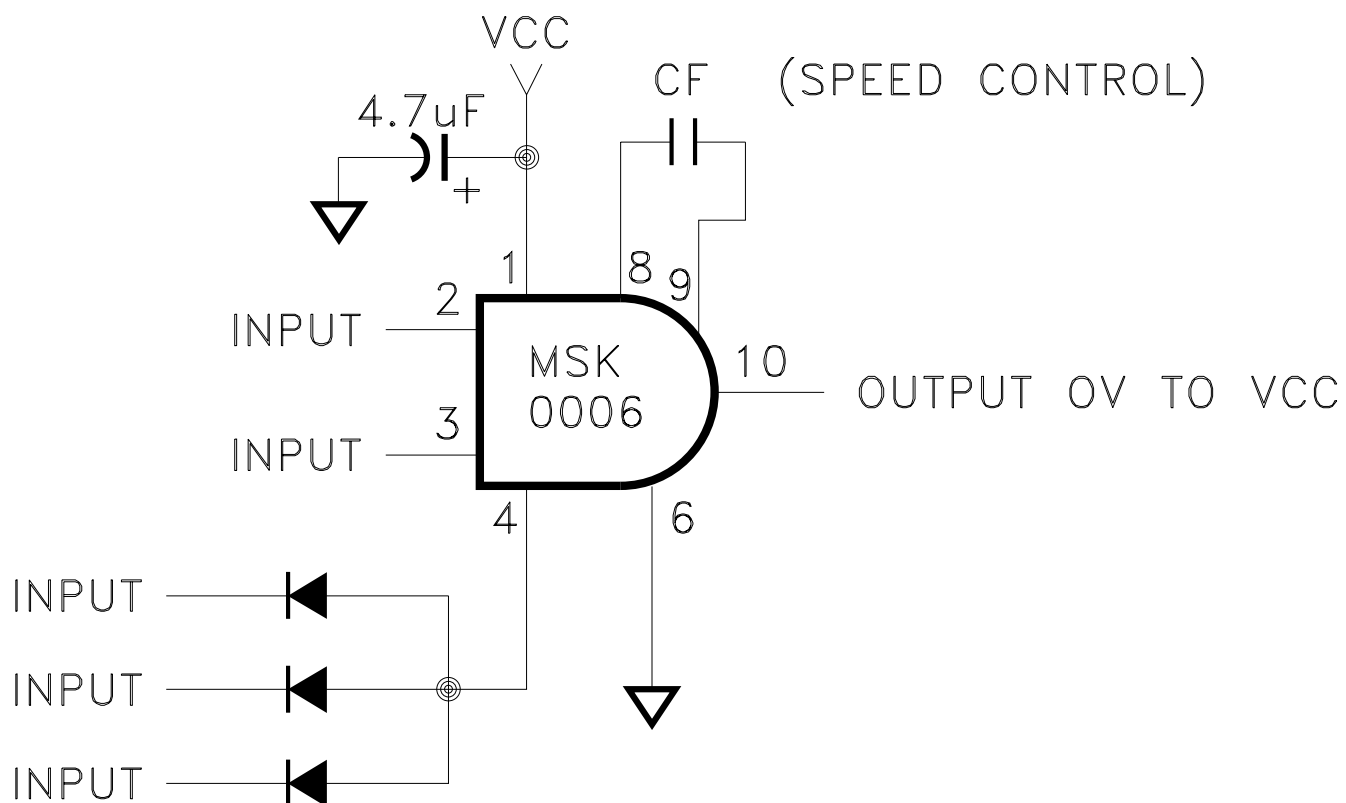
$V_{CC}$	Supply Voltage ( $t \leq 0.1$ sec) . . . . .	60V	$T_{ST}$	Storage Temperature Range . . . . .	-65°C to +150°C
$I_{OUT}$	Output Current (50mS) . . . . .	1.5A	$T_{LD}$	Lead Temperature Range . . . . .	300°C (10 Seconds)
$V_{IN}$	Input Voltage . . . . .	5.5V	$T_C$	Case Operating Temperature (MSK 0006H/E) . . . . .	-55°C to +125°C
$I_{IN}$	Expander Input Current . . . . .	5mA		(MSK 0006) . . . . .	-40°C to +85°C
			$T_J$	Junction Temperature . . . . .	175°C

## ELECTRICAL SPECIFICATIONS

Parameter	Test Conditions ①	Group A	MSK0006H/E			MSK0006			Units
		Subgroup	Min.	Typ.	Max.	Min.	Typ.	Max.	
Power Supply Range ②	Continuous	-	10	28	45	10	28	45	V
Logic 1 Input Voltage ②	$10V \leq V_{CC} \leq 45V$	1,2,3	2.0	-	5.5	2.0	-	5.5	V
Logic 0 Input Voltage ②	$10V \leq V_{CC} \leq 45V$	1,2,3	-	-	0.8	-	-	0.8	V
Logic 1 Output Voltage	$V_{CC} = 28V$ $V_{IN} = 2V$ $R_L = 82\Omega$	1,2,3	26.5	27	-	26	27	-	V
	② $V_{CC} = 10V$ $V_{IN} = 2V$ $I_O = 150mA$	1,2,3	8.8	9	-	8.5	9	-	V
Logic 0 Output Voltage	$V_{IN} = 0.8V$ $R_L = 100\Omega$	1,2,3	-	5	10	-	5	15	mV
Logic 1 Input Current ②	$V_{IN} = 2.4V$	1,2,3	-	1	5	-	1	10	$\mu A$
	$V_{IN} = 5.5V$	1,2,3	-	25	100	-	25	150	$\mu A$
Logic 0 Input Current ②	$V_{IN} = 0.4V$	1,2,3	-1.0	-	-	-1.1	-	-	mA
Off Supply Current	$V_{IN} = 0.8V$	1,2,3	-	0.5	2.0	-	0.5	2.2	mA
On Supply Current	$V_{IN} = 2.0V$	1,2,3	-	6	8	-	6	8.5	mA
Rise Time	$V_{CC} = 28V$ $R_L = 82\Omega$	4,5,6	-	100	300	-	100	325	nS
Fall Time	$V_{CC} = 28V$ $R_L = 82\Omega$	4,5,6	-	0.8	1.7	-	0.8	1.8	$\mu S$
Turn On Time ②⑦	$V_{CC} = 28V$ $R_L = 82\Omega$	4,5,6	-	0.3	1.0	-	0.3	1.1	$\mu S$
Turn Off Time ②⑦	$V_{CC} = 28V$ $R_L = 82\Omega$	4,5,6	-	2.2	8.0	-	2.2	8.2	$\mu S$
Thermal Resistance ②	Junction to Case @ $T_C = 125^\circ C$	-	-	60	68	-	60	70	$^\circ C/W$

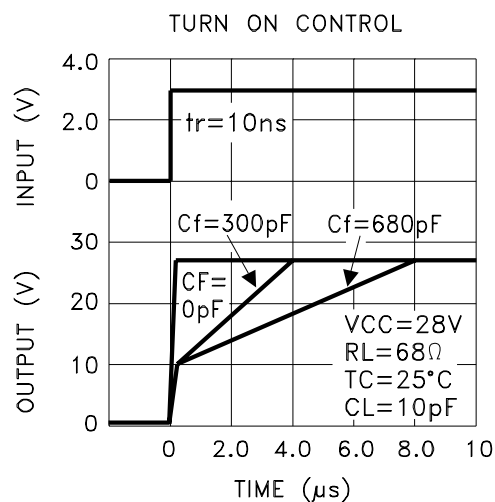
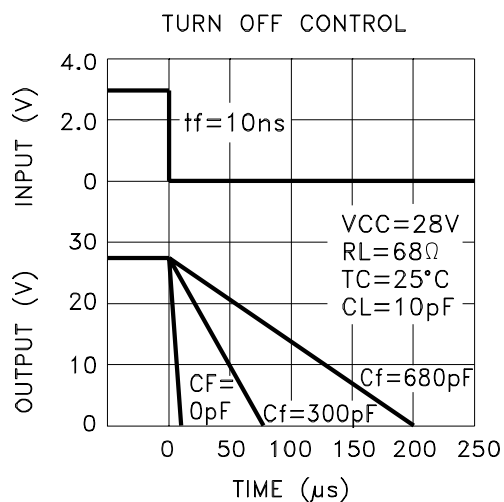
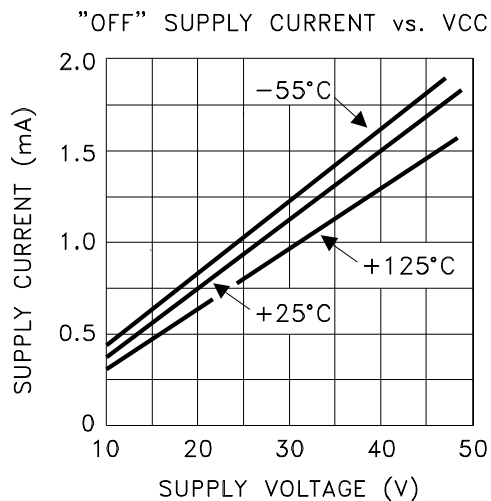
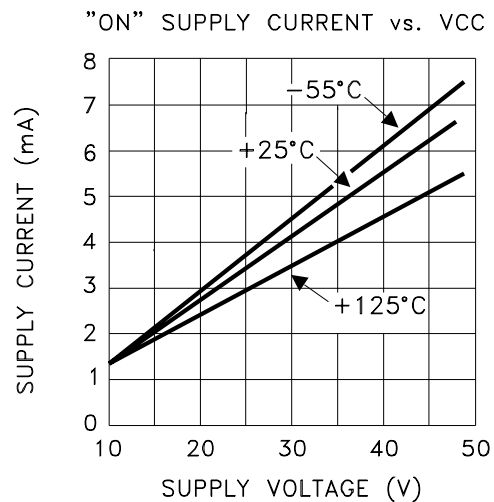
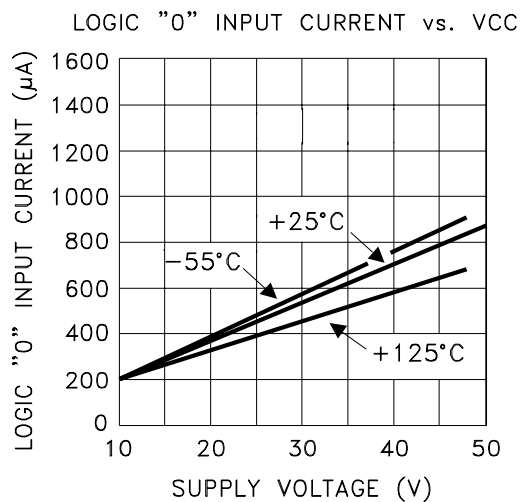
## NOTES:

- ①  $V_{CC} = 45V$ ,  $C_f = NC$  and  $I_{OUT} = 0mA$  unless otherwise specified.
- ② Guaranteed by design but not tested. Typical parameters are representative of actual device performance 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  $T_C = +25^\circ C$   
Subgroup 2,5  $T_C = +125^\circ C$   
Subgroup 3,6  $T_A = -55^\circ C$
- ⑦ Measured from 50% of  $V_{IN}$  to 90% of  $V_{OUT}$  transition.

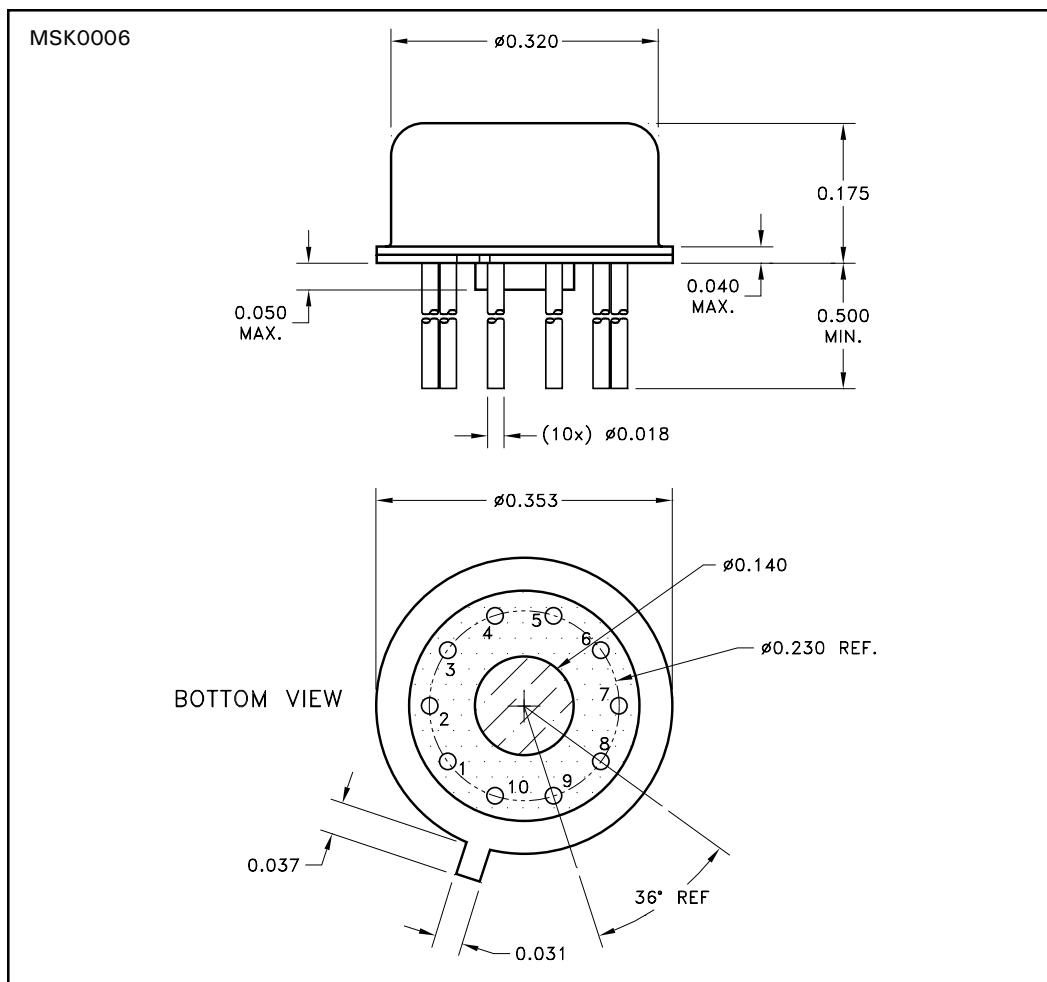


APPLICATION DIAGRAM

## 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
MSK0006	Industrial
MSK0006E	Extended Reliability
MSK0006H	Mil-PRF-38534 Class H
5962-8761701X	DSCC-SMD

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