



M.S.KENNEDY CORP.

RAD HARD 16 CHANNEL DRIVER

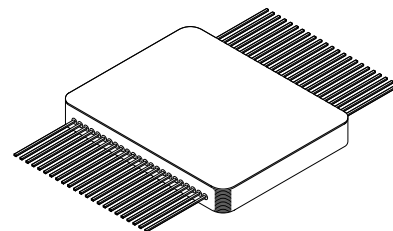
1756

4707 Dey Road Liverpool, N.Y. 13088

(315) 701-6751

FEATURES:

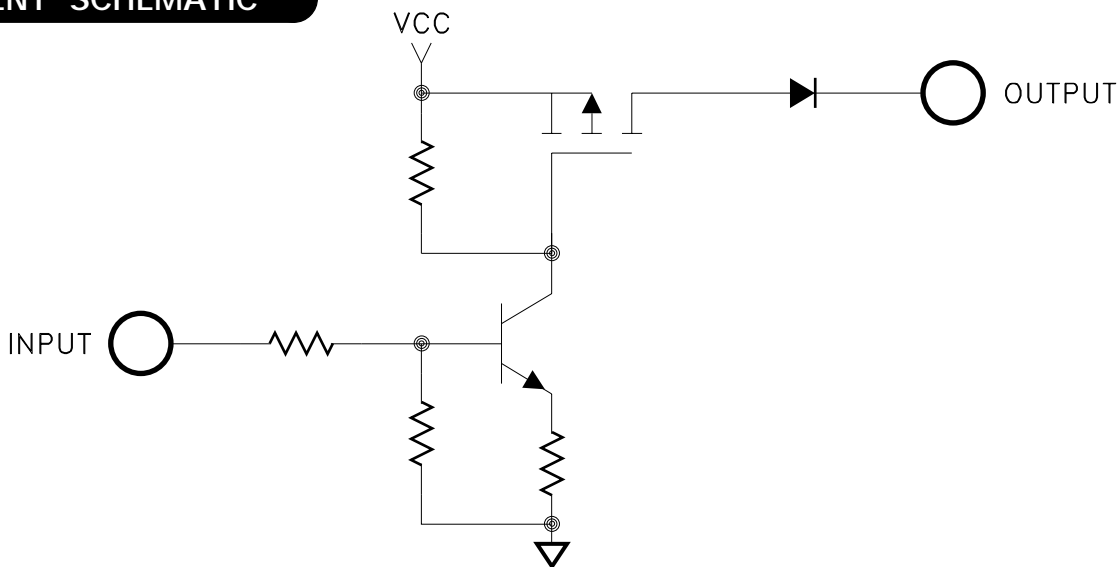
- RAD HARD MOSFETs
- 16 Channel
- Available Fully Screened to MIL-PRF-38534
- Surface Mount Flatpack
- Low Profile
- 100V/0.5A Max. Ratings for Switches
- Series Diode for Each Output



DESCRIPTION:

The MSK 1756 is a radiation hardened 16 channel high side driver module. The device is designed for space applications where quality, performance and low weight are a must. The MSK 1756 is packaged in a hermetic 46 pin flatpack.

EQUIVALENT SCHEMATIC



ONE OF SIXTEEN CHANNELS SHOWN

TYPICAL APPLICATIONS

- High Side Switch Drivers
- High Level Switching
- Space Applications

PIN-OUT INFORMATION

1	IN1	13	SPARE	25	IN16	37	VCC2
2	IN2	14	OUT5	26	IN15	38	OUT12
3	IN3	15	OUT6	27	IN14	39	OUT11
4	IN4	16	OUT7	28	IN13	40	OUT10
5	SPARE	17	OUT8	29	SPARE	41	OUT9
6	OUT1	18	SPARE	30	OUT16	42	SPARE
7	OUT2	19	IN5	31	OUT15	43	IN12
8	OUT3	20	IN6	32	OUT14	44	IN11
9	OUT4	21	IN7	33	OUT13	45	IN10
10	VCC1	22	IN8	34	SPARE	46	IN9
11	VCC1	23	GND	35	VCC2		
12	VCC1	24	GND	36	VCC2		

ABSOLUTE MAXIMUM RATINGS ^④

V_{CC} Positive Supply Voltage + 35V
 T_J Junction Temperature 150°C
 V_{IN} Input Voltage 6.0V
 V_{OUT} Output Voltage V_{CC}
 Output Breakdown Voltage
 (V_{CC}-V_{OUT}) 100V

T_C Operating Temperature Range . . . -55°C to + 125°C
 Storage Temperature Range . . . -55°C to + 150°C
 Lead Temperature
 (Soldering, 10 Seconds) 265°C
 Output Current 625mA

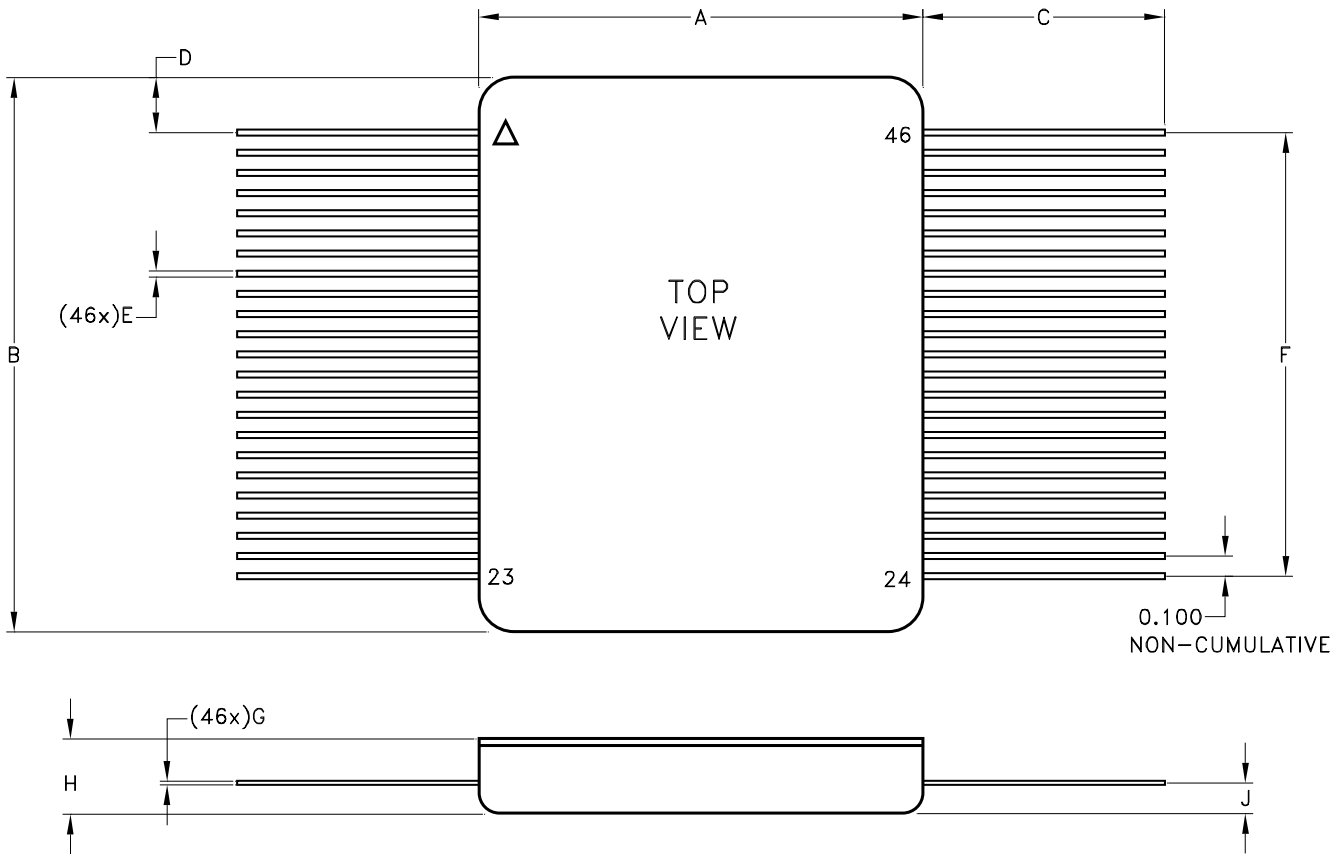
ELECTRICAL SPECIFICATIONS

Parameter	Test Conditions ^①	Group A Subgroup	Min.	Typ.	Max.	Units	
Supply Current	V _{IN} = N/C R _L = N/C	1	-	-	250	uA	
		2,3	-	-	0.5	mA	
Output Voltage (Off)	CHANNELS 1 THRU 16 WRT +V _{CC} R _L = 10K Ω	1,2,3	29.0	-	-	V	
Output Voltage (On)	CHANNELS 1 THRU 16 WRT +V _{CC} R _L = 88.7Ω	1	-	-	1.6	V	
		2,3	-	-	1.8	V	
Output Delay Times	CHANNELS 1 THRU 16 R _L = 88.7Ω V _{IN} = 0V-5V SQ WAVE MEASURED @ 50% POINTS OF INPUT AND OUTPUT	TON	4	-	-	50	uS
		TOFF	4	-	-	70	uS
Output Voltage Delta (On)	CHANNELS 1 THRU 16 WRT +V _{CC} R _L = 88.7Ω	1	-	-	0.2	V	
Input Voltage (Logic 1) ^②		1	4.0	-	-	V	
Input Voltage (Logic 0) ^②		1	-	-	0.6	V	
Input Current ^②		1	-	-	300	uA	
Supply Current ^②	V _{IN} = + 4.1V R _L = 88.7Ω (OUTPUT UNDER TEST) R _L = 10KΩ (ALL OTHER OUTPUTS)	1	-	-	5	mA	
Output Current ^②	V _{IN} = + 4.1V R _L = 88.7Ω (OUTPUT UNDER TEST) R _L = 10KΩ (ALL OTHER OUTPUTS)	1	325	-	-	mA	

NOTES:

- ① Unless otherwise specified the following test conditions shall apply: + V_{CC} = + 31.5V, + V_H = + 4.1V, + V_L = + 1V.
- ② Parameter, if not tested shall be guaranteed to the specified limits in table 1.
- ③ Subgroup 1,4 T_A = T_C = + 25°C
 Subgroup 2,5 T_A = T_C = + 125°C
 Subgroup 3,6 T_A = T_C = -55°C
- ④ Continuous operation at or above absolute maximum ratings may adversely effect the device performance and/or life cycle.

MECHANICAL SPECIFICATIONS



REF	MIN	MAX
A	1.090	1.110
B	1.365	1.385
C	0.500	—
D	0.127	0.147
E	0.012	0.018
F	1.095	1.105
G	0.008	0.012
H	—	0.185
J	0.067	0.077

ESD TRIANGLE INDICATES PIN 1
WEIGHT = 13 GRAMS TYPICAL

ORDERING INFORMATION

Part Number	Screening Level
MSK1756	Industrial
MSK1756H	MIL-PRF-38534 Class H
MSK1756K	MIL-PRF-38534 Class K

M.S. Kennedy Corp.
4707 Dey Road, Liverpool, New York 13088
Phone (315) 701-6751
FAX (315) 701-6752
www.mskennedy.com

The information contained herein is believed to be accurate at the time of printing. MSK reserves the right to make changes to its products or specifications without notice, however, and assumes no liability for the use of its products. Please visit our website for the most recent revision of this datasheet.