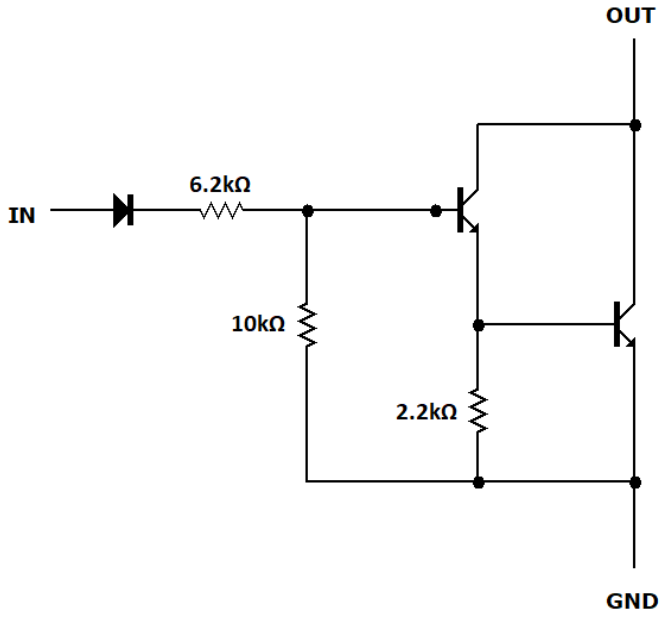
HIGH VOLTAGE MEDIUM CURRENT DRIVER ARRAY

- **Six Darlington drivers that can interface directly to 5V logic**
- **Each channel can drive up to 800mA (see notes)**
- **Hermetic 22 pin DIP package**
- **Available screened to MIL-STD-883**
  - **Class level H – SBA691310S**
  - **Class level K – SBA691310SS**

SCHEMATIC (one of six circuits)



PINOUTS

PIN	FUNCT.
1	IN1
2	IN2
3	IN3
4	IN4
5	IN5
6	IN6
7	GND
8	OUT6
9	NC
10	NC
11	NC
12	OUT5
13	NC
14	OUT4
15	NC
16	OUT3
17	NC
18	OUT2
19	NC
20	OUT1
21	NC
22	NC

ABSOLUTE MAXIMUM RATINGS

RATING	MIN	MAX	UNITS
Output Voltage		120	V
Input Voltage		30	V
Continuous Collector Current[1,4]		800	mA
Continuous Collector Current[2,4]		750	mA
Continuous Collector Current[3,4]		450	mA
Operating Junction Temperature	-55	150	^{0}C
Storage Temperature Range	-65	150	^{0}C

TABLE 1. ELECTRICAL CHARACTERISTICS

T_A = 25°C UNLESS OTHERWISE SPECIFIED.

CHARACTERISTIC	MIN	MAX	UNITS
Collector-Base Breakdown Voltage (IC = 100µA) [5]	120		V
Collector-Emitter Breakdown Voltage (IC = 1mA) [5]	100		V
Emitter-Base Breakdown Voltage (IE = 100µA) [5]	4		V
Output Leakage Current (VCE = 80V)		500	nA
Output Leakage Current (VCE = 80V, T_A =-55^{0}C)		500	nA
Output Leakage Current (VCE = 80V, T_A =125^{0}C)		5000	nA
VCE SAT. VOLT. (IC = 350mA, VIN = 5V)		1.25	V
VCE SAT. VOLT. (IC = 350mA, VIN = 5V, T_A =-55^{0}C)		1.35	V
VCE SAT. VOLT. (IC = 350mA, VIN = 5V, T_A =125^{0}C)		1.15	V
Input Current (ON) (VIN = 5V)		700	uA
Input Current (ON) (VIN = 5V, T_A =-55^{0}C)		650	uA
Input Current (ON) (VIN = 5V, T_A =125^{0}C)		750	uA
Input Voltage (OFF) (IC < 50uA)	1.3		V
Input Voltage (OFF) (IC < 50uA, T_A =-55^{0}C)	1.8		V
Input Voltage (OFF) (IC < 500uA, T_A =125^{0}C)	1.0		V
Turn-On Delay (TPLH, 0.5 VIN to 0.5 VOUT)		600	ns
Turn-Off Delay (TPHL, 0.5 VIN to 0.5 VOUT)		9000	ns
Thermal Resistance, junction-to-case, per channel[6]		52	°C/W

[1]Up to two channels on simultaneously.
[2]Up to three channels on simultaneously.
[3]Up to six channels on simultaneously.
[4]Soldered to a double-sided, 1oz. Cu, 6in^2 printed circuit board with natural convection, $T_A \leq 25°C$.
[5]Internal transistor characteristic not subject to production screening.
[6]Not subject to 100% production screening.

SCREENING, CONFORMANCE INSPECTION, AND PERIODIC INSPECTION

1. Screening. Screening shall be in accordance with MIL-PRF-38534 (see Table 2) and shall be conducted on all devices prior to quality conformance inspection; class level H – **SBA691310S**, class level K – **SBA691310SS**.

2. Quality conformance inspection. Quality conformance inspection shall be in accordance with MIL-PRF-38534, Appendix C, group A (see Table 3); class level H – **SBA691310S**, class level K – **SBA691310SS**.

3. Quality periodic inspection. Quality periodic inspection shall be in accordance with MIL-PRF-38534, Appendix C, groups B, C, and D; class level H – **SBA691310S**, class level K – **SBA691310SS**.

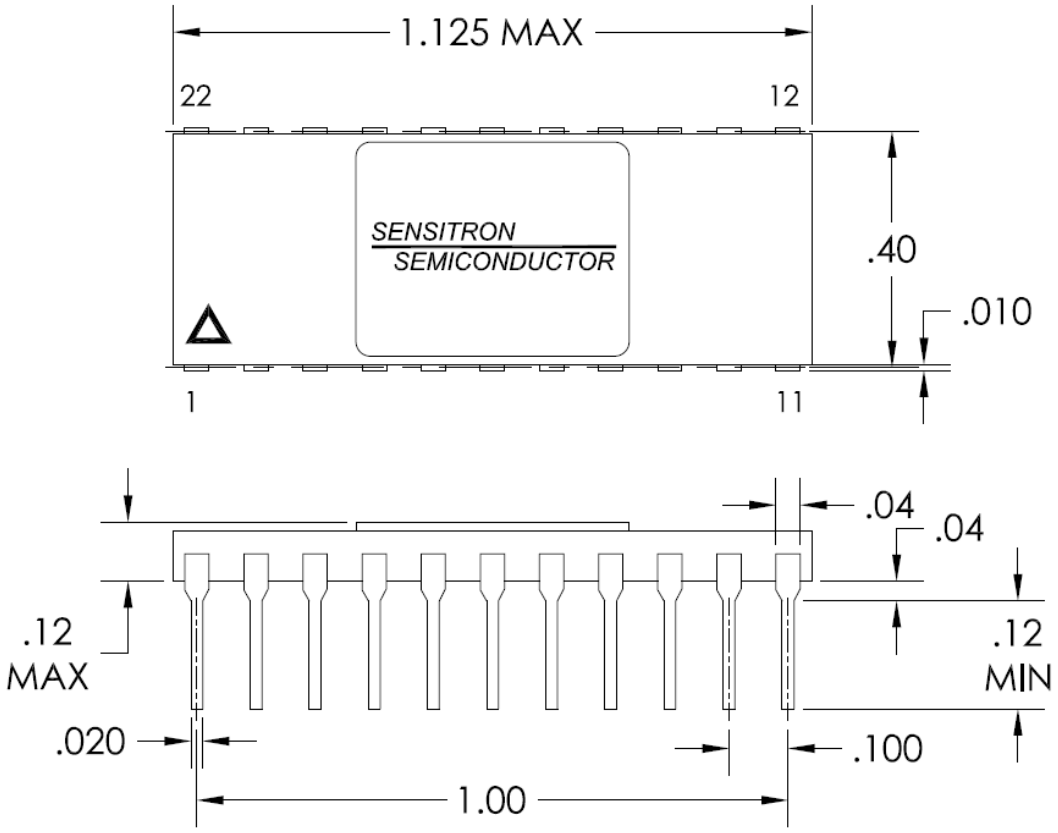
TABLE 2. SCREENING REQUIREMENTS

Screen	Class H	Class K
Non-destructive bond pull		X
Internal visual	X	X
Temperature cycling	X	X
Mechanical shock or constant acceleration	X	X
PIND		X
Pre-burn-in electrical test		X
Burn-in	X	X
Final electrical test	X	X
Seal (fine and gross)	X	X
Radiographic		X
External visual screen	X	X

TABLE 3. GROUP A TESTING REQUIREMENTS

Subgroup	Parameters	Quantity (accept #)
1	Static test at +25°C	116 (0)
2	Static tests at maximum rated operating temperature	76 (0)
3	Static tests at minimum rated operating temperature	45 (0)
4	Dynamic tests at +25°C	N/A
5	Dynamic tests at maximum rated operating temperature	N/A
6	Dynamic tests at minimum rated operating temperature	N/A
7	Functional tests at +25°C	N/A
8	Functional tests at maximum and minimum rated operating temperatures	N/A
9	Switching tests at +25°C	116 (0)
10	Switching tests at maximum rated operating temperature	N/A
11	Switching tests at minimum rated operating temperature	N/A

MECHANICAL OUTLINE



DIMENSIONS IN INCHES
TOLERANCE UNLESS OTHERWISE NOTED:
.XX = ±.01
.XXX = ±.005

PART ORDERING INFORMATION:

SBA691310XX

Screening Level

Screening Level:

Suffix	Part Number	Screening in accordance to MIL-PRF-38534
S	***SBA691310S***	***Class H level***
SS	***SBA691310SS***	***Class K level***

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