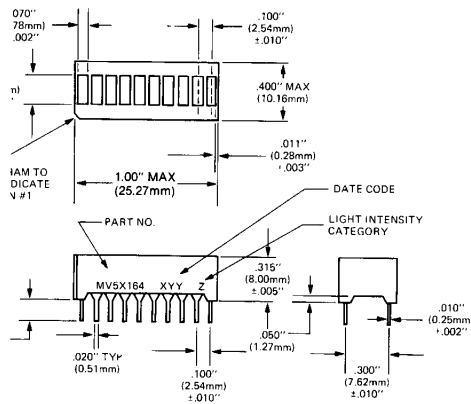


MV5A164 MV5D164
MV5B164 MV5E164
MV5C164

PACKAGE DIMENSIONS



C1466AA

NOTE: TOLERANCES ±.010" UNLESS SPECIFIED

DESCRIPTION

These are 10 segments multicolor bargraphs with separate anodes and cathode for each segment. The packages are stackable.

FEATURES

- Large segments, closely spaced
- End stackable
- Fast switching — excellent for multiplexing
- Low power consumption
- Directly compatible with ICs.
- Standard 0.3" DIP lead spacing

Custom multicolor bargraphs are available with minimum delivery requirements.

| ABSOLUTE MAXIMUM RATING | |
|-----------------------------------|---------------|
| Power dissipation at 25°C ambient | 750 mW |
| Derate linearly from 50°C | -14.3 mW/°C |
| Storage and operating temperature | -40°C to 85°C |
| Continuous forward current | |
| Total | 200 mA |
| Per segment | 25 mA |
| Reverse voltage | |
| Per segment | 6 V |
| Soldering time at 260°C | 5 Sec. |

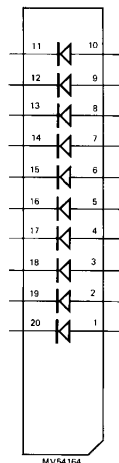
| TYPICAL THERMAL CHARACTERISTICS | |
|---|-------------|
| Thermal resistance Junction to free air θ_{JA} | 160°C/W |
| Wavelength temperature coefficient (case temperature) | 1.0 A/°C |
| Forward voltage temperature coefficient | |
| Yellow | -1.5 mV/°C, |
| Green | -1.4 mV/°C, |
| HER | -2.0 mV/°C |

ELECTRO-OPTICAL CHARACTERISTICS

(25°C Free Air Temperature Unless Otherwise Specified)

| CONDITIONS | MIN | TYP | MAX | UNITS | TEST |
|--------------------------------------|-----|------|-----|----------------|-------------------------|
| Forward voltage (HER, Green, Yellow) | | 2.2 | 3.0 | V | $I_f = 10 \text{ mA}$ |
| Luminous intensity (average) | 510 | 1800 | | μCd | $I_f = 10 \text{ mA}$ |
| Peak emission wavelength | | | | | |
| High efficiency red (HER) | | 630 | | nm | |
| Green | | 562 | | nm | |
| Yellow | | 585 | | nm | |
| Spectral line half width | | 40 | | nm | |
| Dynamic resistance — segment | | 26 | | ohm | $I_f = 20 \text{ mA}$ |
| Switching time | | 500 | | ns | |
| Reverse voltage | | 6.0 | | V | $I_R = 100 \mu\text{A}$ |

INTERNAL CIRCUIT DIAGRAMS



Pin connections

| <u>Electrical</u> | | <u>Electrical</u> | |
|-------------------|--------------|-------------------|----------------|
| Pin No | connections | Pin No | connections |
| 1 | Bar 1 anode | 11 | Bar 10 cathode |
| 2 | Bar 2 anode | 12 | Bar 9 cathode |
| 3 | Bar 3 anode | 13 | Bar 8 cathode |
| 4 | Bar 4 anode | 14 | Bar 7 cathode |
| 5 | Bar 5 anode | 15 | Bar 6 cathode |
| 6 | Bar 6 anode | 16 | Bar 5 cathode |
| 7 | Bar 7 anode | 17 | Bar 4 cathode |
| 8 | Bar 8 anode | 18 | Bar 3 cathode |
| 9 | Bar 9 anode | 19 | Bar 2 cathode |
| 10 | Bar 10 anode | 20 | Bar 1 cathode |

C14/71

MULTICOLOR BARGRAPH SEGMENT COLOR

| Segment | MV5A164 | MV5B164 | MV5C164 | MV5D164 | MV5E164 |
|---------|---------|---------|---------|---------|---------|
| 1 | HER | HER | Green | Green | Green |
| 2 | HER | HER | Green | Green | Yellow |
| 3 | HER | Yellow | Green | Green | Yellow |
| 4 | Yellow | Yellow | Green | Green | Yellow |
| 5 | Yellow | Green | Green | Green | Yellow |
| 6 | Yellow | Green | Green | HER | Yellow |
| 7 | Yellow | Yellow | Yellow | HER | Yellow |
| 8 | Green | Yellow | Yellow | HER | HER |
| 9 | Green | HER | Yellow | HER | HER |
| 10 | Green | HER | HER | Yellow | HER |



MULTICOLOR BARGRAPH

DISCLAIMER

FAIRCHILD SEMICONDUCTOR RESERVES THE RIGHT TO MAKE CHANGES WITHOUT FURTHER NOTICE TO ANY PRODUCTS HEREIN TO IMPROVE RELIABILITY, FUNCTION OR DESIGN. FAIRCHILD DOES NOT ASSUME ANY LIABILITY ARISING OUT OF THE APPLICATION OR USE OF ANY PRODUCT OR CIRCUIT DESCRIBED HEREIN; NEITHER DOES IT CONVEY ANY LICENSE UNDER ITS PATENT RIGHTS, NOR THE RIGHTS OF OTHERS.

LIFE SUPPORT POLICY

FAIRCHILD'S PRODUCTS ARE NOT AUTHORIZED FOR USE AS CRITICAL COMPONENTS IN LIFE SUPPORT DEVICES OR SYSTEMS WITHOUT THE EXPRESS WRITTEN APPROVAL OF THE PRESIDENT OF FAIRCHILD SEMICONDUCTOR CORPORATION. As used herein:

1. Life support devices or systems are devices or systems which, (a) are intended for surgical implant into the body, or (b) support or sustain life, and (c) whose failure to perform when properly used in accordance with instructions for use provided in the labeling, can be reasonably expected to result in a significant injury of the user.
2. A critical component in any component of a life support device or system whose failure to perform can be reasonably expected to cause the failure of the life support device or system, or to affect its safety or effectiveness.