

APPLICATION NOTES

BULLETIN
SM-EZ-101

* SURFACE MOUNT MADE EASY WITH SURFBOARDS*

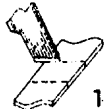
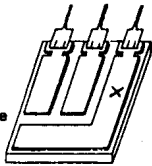
SURFBOARDS™
Made in the
U.S.A.
Patent Pending.

QUICK TIP

FOIL MODIFICATIONS

SURFBOARDS often require modifications to add a part or to interrupt circuit paths. Use this simple and easy method for clean and fast results.

X marks the location where a part will be added.



Use a sharp razor knife to score the circuit foil.

Heat the section to be removed with the tip of soldering iron.



Slight pressure and rubbing of the area with the iron will cause the unwanted circuit foil to delaminate from the board for easy removal.

3 Inspect the modification and touch up with knife if needed.

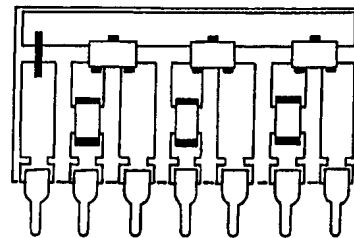
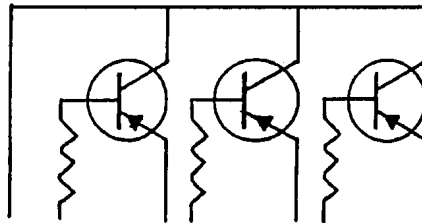
Place part at new location and solder.



NOTE: You will find it faster to pre-plan your board layout and make any modifications needed all at one time before you begin soldering parts.

BUILD SURFACE MOUNT CIRCUITS WITH BASIC TOOLS YOU PROBABLY ALREADY OWN !

You can build hundreds of useful surface mount based circuits with nothing more than a fine point soldering iron, some small diameter solder, a razor knife, and SURFBOARDS. And because most Surfboards come with pins on .100 centers, your circuits will be compatible with both conventional and solderless breadboards. Most Surfboard models have been designed with universal circuit patterns that will allow you to mount a wide range of device types and sizes, and with simple modifications you can even further expand your component mounting options.



In the example above a transistor array is shown assembled on a standard Surfboard. The mounting zones for the bias resistors were created with the simple technique shown at left. The common buss for the transistor collectors is connected to pin 1 with a jumper. With Surfboards you can enjoy increased packaging density and modularity for your circuit designs. You can create circuit modules from simple component groupings to functional circuit elements. Surface mount is here to stay, let SURFBOARDS help you start utilizing this exciting technology today without the mess and hassle of making custom boards.

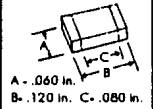
WHAT ARE YOU WAITING FOR ? While you certainly can use sophisticated and expensive equipment to build Surfboard circuits, you can also use the simple techniques shown here to build prototype and short run quantity circuits now, and upgrade your equipment and process techniques later if desired.

SEE OUR OTHER DATA SHEETS FOR MORE INFORMATION ABOUT THE AVAILABLE SURFBOARD MODELS, ADDITIONAL PROCESSING TECHNIQUES, AND CIRCUIT IDEAS

PARTS PRIMER

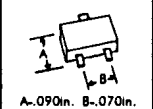
SIZE AND PIN OUT DATA FOR A FEW COMMON DEVICE TYPES.

1206
RESISTORS
CAPACITORS
Popular package size.
Resistors are 1/8 W.
Capacitors are 50-V.

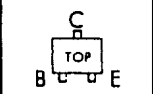


A - .060 in. B - .120 in. C - .080 in.

SOT-23 TRANSISTORS

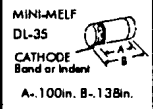


A - .090 in. B - .070 in.

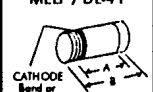


Power dissipation depends on device type.

DIODES



A - .100 in. B - .138 in.



A - .160 in. B - .200 in.

NOTE:
Specifications given are approximate and may vary. Check individual part data.

QUICK TIP

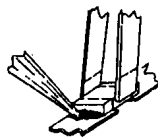
BASIC SOLDERING METHOD

Use a low wattage fine point iron. To minimize possible thermal-shock damage to parts, heat the solder joint rather than the part surface. Fine diameter solders will give the best control and minimize excessive solder.

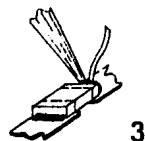


1 While holding the part securely with tweezers, solder one of the joints.

Feed solder onto tip end to form a small solder ball which adheres to the tip



2



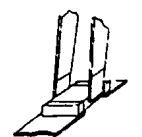
3 Remove tweezers and solder the remaining joints using normal methods.

SOLDERING ENHANCEMENTS

The basic soldering method can be greatly enhanced by securing all of the components prior to soldering by using our SME-12 epoxy or other suitable adhesive. This will make soldering much easier and provide for better part alignment.



Dispense a dot of adhesive for each part location, place parts and cure the adhesive. You may now solder all of the parts in one operation.



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