

## NXP MicroPak and MicroPak II packages for single-, dual-, and triple-gate logic functions

# World's smallest leadless logic packages

MicroPak and MicroPak II packages are the world's smallest packages for single-, dual-, and triple-gate logic. They are 65% - 74% smaller than their PicoGate equivalents and offer a larger pad size that provides a more rugged and reliable bond between the device and the PC board.

### Key features

- ▶ Smallest package, more space for added functionality
- ▶ Leadless format eliminates assembly problems
- ▶ Pb-free and RoHS compliant
- ▶ Temperature range: -40 to +125 °C

### Applications

- ▶ Mobile phones and PDAs
- ▶ Laptop computers and high-density boards
- ▶ Digital still cameras and MP3 players
- ▶ Portable/handheld test and measurement and consumer equipment

Ideally suited for portable applications, where board space is always a concern, MicroPak and MicroPak II packages create a smaller, slimmer design and frees up space for added functionality.

The form factor is similar to that of popular passive components and a variety of popular functions are available, including gates, flip-flops, single and dual buffers, inverters, configurable gates and translators.

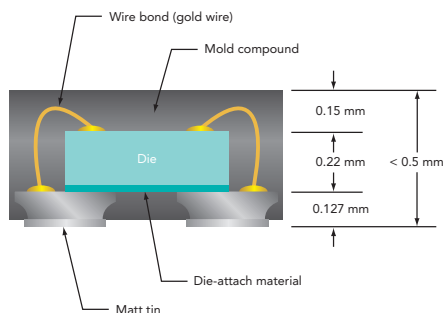
MicroPak and MicroPak II use the same silicon as found in the HC/T, AHC/T, LVC, and AUP PicoGate families, so the electrical performance is highly predictable. For easy upgrades, the MicroPak and MicroPak II packages also maintain the industry-standard pad pitch of 0.5 mm and 0.35mm.

The six-pin MicroPak (GM) package measures only 1.0 x 1.45 x 0.5 mm, so they are 65% smaller than PicoGate equivalents housed in SOT363 (SC-88) or GW packages. The eight-pin packages deliver similar space savings.

The six-pin MicroPakII is 33% smaller than the MicroPak measuring only 1.0 x 1.0 mm and is 75% smaller than PicoGate SOT353/363 package.

The MicroPak package can be used as drop-in replacements for BGA and Wafer-level Chip Scale Package (WCSP) devices, since the layout requirements for alignment and geometry are the same for all of them.

MicroPak and MicroPak II are more rugged than WCSP. Encapsulation protects the die from breaks, scratches,













MicroPak cross sectional view

and environmental conditions. The pads are 40% larger than on a WCSP device, and 30% larger than on a leaded package of the same footprint, so there's more contact area with the circuit board.

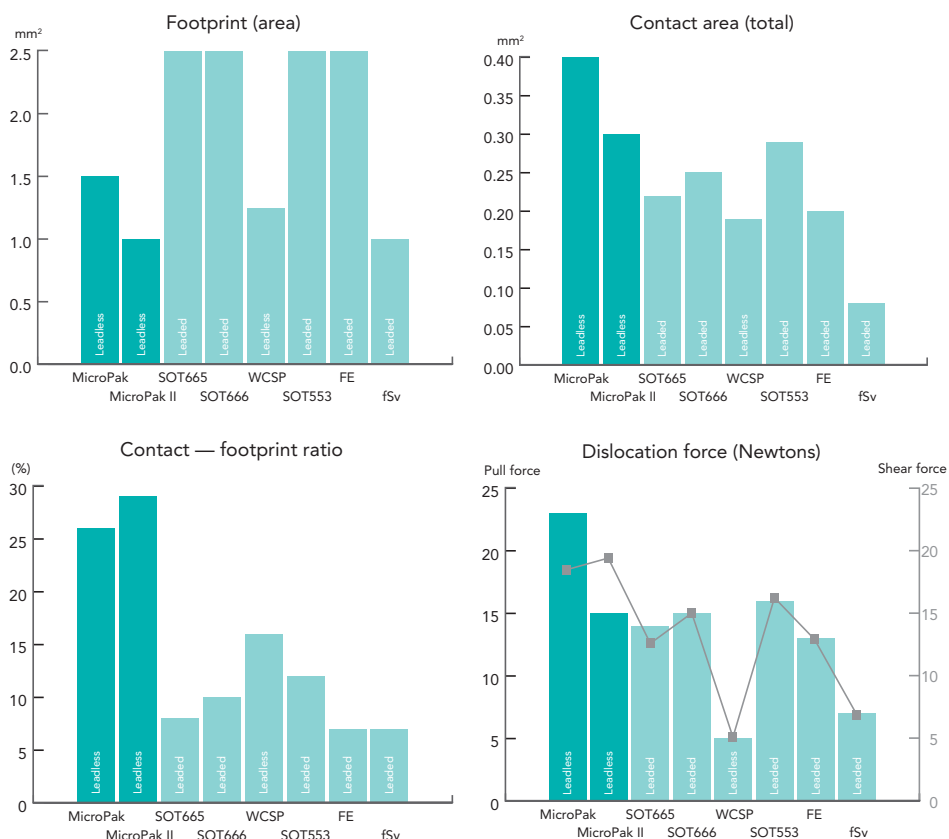
MicroPak and MicroPak II have no leads, so they eliminate the assembly problems associated with bent and non-planar leads. They're also Pb-free and RoHS compliant, so they meet higher standards for environmental friendliness.

The NXP MicroPak and MicroPak II packages evolved from the company's Micro Carrier Device (MCD), a discrete MOS leadless package built using a quad flat non-leaded technology. MCD is the world's smallest package for single diodes and transistors and improves RF performance by reducing the parasitic capacitance between the die and its package.

For more information about MicroPak and MicroPak II, please visit [www.nxp.com/logic](http://www.nxp.com/logic).

Package suffix	GM	GT	GM	GF
	6-Pin	8-Pin	8-Pin	6-Pin
Single gate	 SOT886	 SOT883	 SOT902	 SOT891
Dual gate	 SOT886	 SOT883	 SOT902	 SOT891
Triple gate		 SOT883	 SOT902	
	6-Pin	8-Pin	8-Pin	6-Pin
Width (mm)	1.00	1.00	1.60	1.00
Length (mm)	1.45	1.95	1.60	1.00
Pitch (mm)	0.50	0.50	0.50	0.35

MicroPak package outline (5-pin functions use SOT886-1, pin 5 is NC).



MicroPak offers the largest total contact area, so it provides the greatest mechanical strength

MicroPak™ is a trademark of Fairchild Semiconductors

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