

### Thin-type large-current Power MOSFET 「ATPAK Series」 (New Package)

Halogen-free

By applying Sanyo's unique Clip Bonding Tech, the new ATPAK series realized 100A rated current, which is the largest among the same class. (equivalent to SMP).

The mount area is common to TP. *So, it can replace TP!*

### ATPAK Series

Best suited for large-current application such as:

- PC power supply module
- Flat digital TV's backlight inverter
- Electrical tools
- Li-ion battery protection circuit

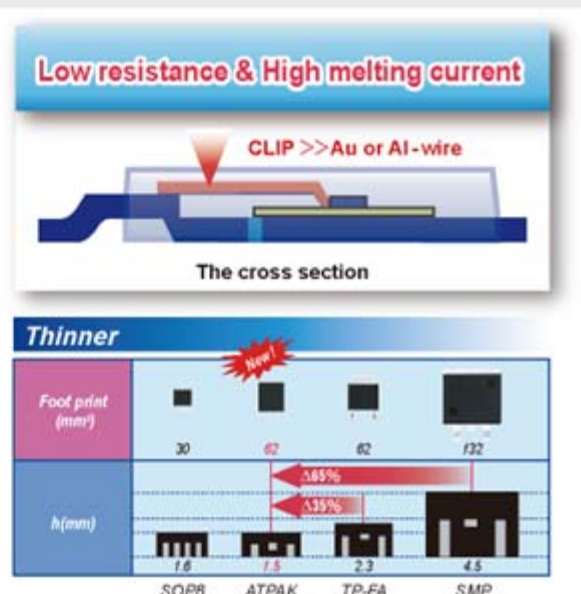
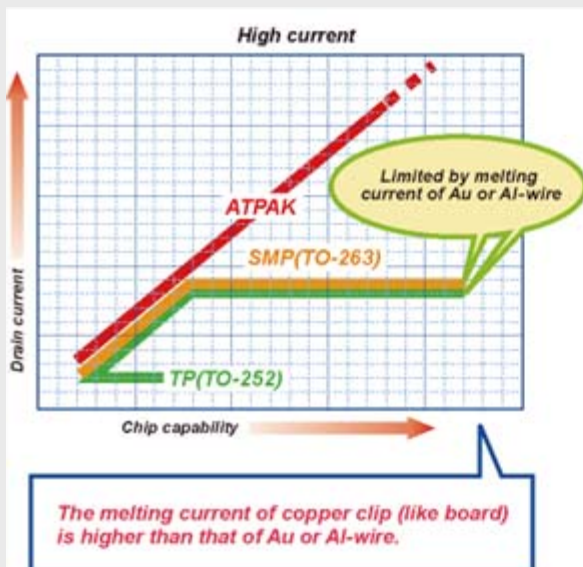


### Features

- **Current:** the industry's largest\* ~100A among TP(TO-252) class.
- **ON-resistance:** 65% lower than that of Sanyo's earlier products.
- **Height:** the industry's thinnest \*1.5mm (L 9.5mm x W 6.5mm x H1.5mm)
- **PD:** 10% higher than that of earlier products. 75% higher than that of SOP products.

\*: as of April 14, 2008 among TP class products.

### Clip Bonding Tech.



ATPAK Series Lineup

Note: The mass production time varies according to each model.

• For DC-DC Converter for PC ( VRM etc. )

Type No.	Polarity	PD	VDSS	VGSS	ID	RDS(on) VGS=10V typ/max
ATP202	N ch	40W	30V	±20V	50A	9/12mΩ
ATP203		50W			75A	6.3/8.2mΩ
ATP204		60W			100A	4.3/5.6mΩ

• For LiB Protection

Type No.	Polarity	PD	VDSS	VGSS	ID	RDS(on) VGS=10V typ/max
ATP404	N ch	70W	60V	±20V	95A	5.5/7.2mΩ

• For DC-DC Converter for PC ( VRM etc. )

Vin	Type No.	Polarity	PD	VDSS	VGSS	ID	RDS(on) VGS=10V typ/max
24V	ATP108	P ch	60W	-45V	±20V	-70A	7/9.5mΩ
	ATP206	N ch	40W	40V		40A	10.8/15mΩ
	ATP207		50W			65A	7/9.1mΩ
	ATP208		60W			90A	4.6/6.0mΩ
60V	ATP301	P ch	70W	-100V	±20V	-30A	56/73mΩ
	ATP405	N ch		100V		45A	25/33mΩ
	ATP402		80W			70A	12/16mΩ
400V	ATP602	N ch	70W	600V	±30V	5A	1.8/2.3Ω
	ATP605					5.5A	1.2/1.6Ω

• For Switching power supply

Type No.	Polarity	PD	VDSS	VGSS	ID	RDS(on) VGS=10V typ/max
ATP602	N ch	70W	600V	±30V	5A	1.8/2.3Ω
ATP603		60W			4A	2.5/3.2Ω
ATP605		70W	500V		5.5A	1.2/1.6Ω
ATP606		60W			4A	1.7/2.2Ω

• For Inverter for Illumination

Type No.	Polarity	PD	VDSS	VGSS	ID	RDS(on) VGS=10V typ/max
ATP608	N ch	70W	525V	±30V	5.5A	1.4/1.8Ω
ATP609		60W			4A	1.9/2.5Ω

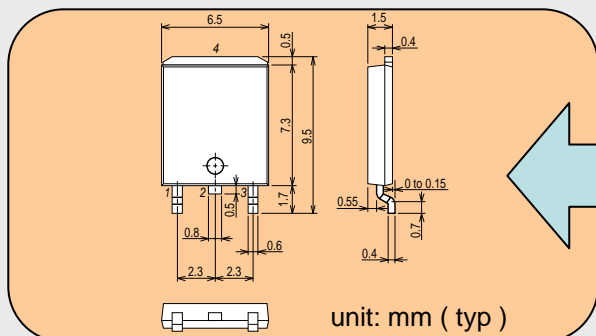
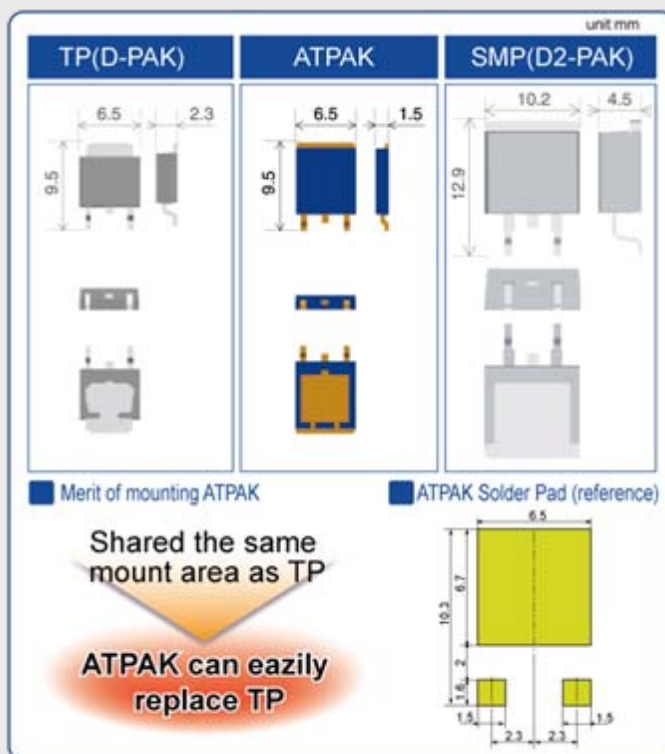
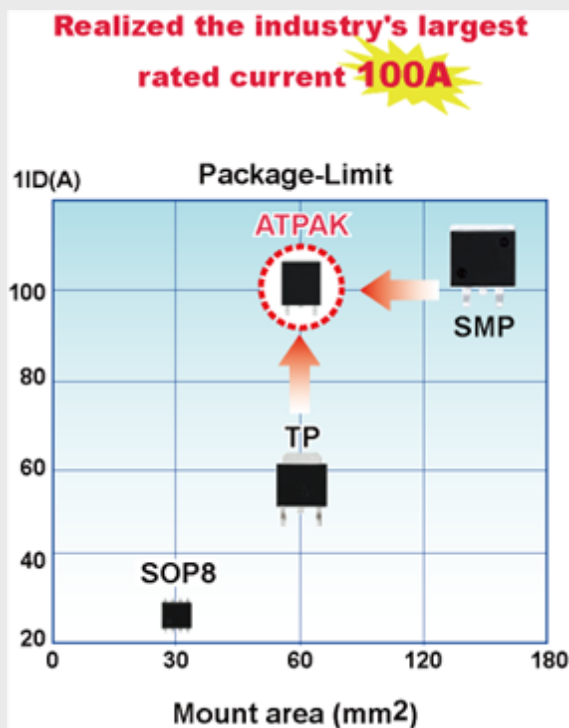
### High Power Dissipation

	SANYO's Glass epoxy substrate (copper foil area: Recommend for TP=45mm <sup>2</sup> )	
TP(TO-252)	1.60W	<p>Approx. 75%UP</p> <p>Approx. 10%UP</p>
SOP8	1.00W	
<b>ATPAK</b>	<b>1.75W</b>	

### Low ON Resistance

	Package size (mm)	ID rated	RDS(on) VGS=10V(typ)	RDS(on) VGS=10V(max)
Conventional (TP)	6.5×9.5	30A	11mΩ	15mΩ
<b>ATPAK</b>	6.5×9.5	100A	4.3mΩ	5.6mΩ
Ratio ATPAK/TP	1.0	3.33	0.39	0.37

### Rated Current / Package / Solder Pad



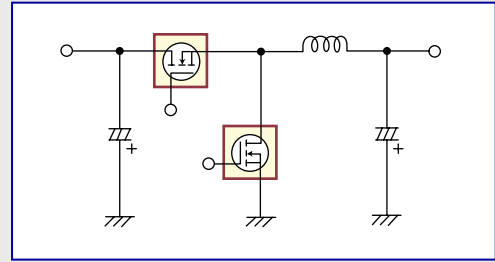
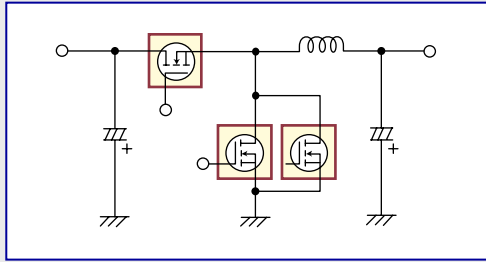
**Realized the industry's thinnest \*1.5mm!**  
(L9.5mm x W 6.5mm X H 1.5mm)

\*: as of April 14, 2008 among TP-class products

Application Examples

●DC-DC Converter

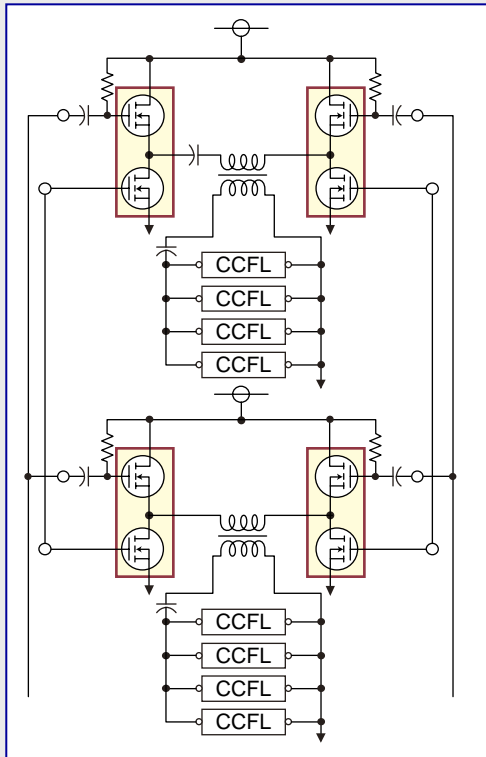
Low side: MOSFET x 2 (in parallel) → 1 device



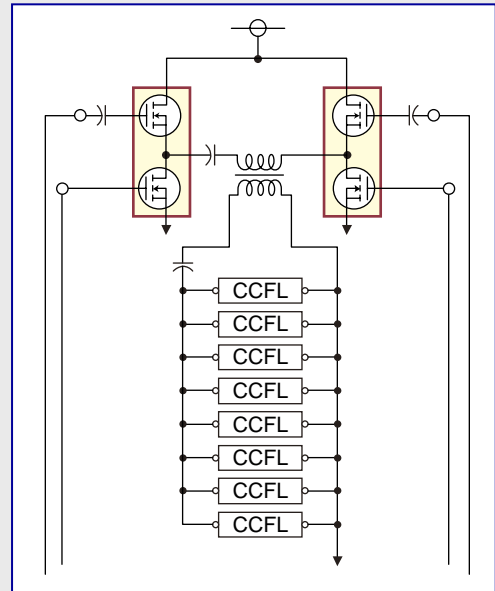
●Backlight Inverter

MOSFET x 8 (full-bridge x 2) → MOSFET x 4 (full-bridge x 1)

8 lamps / 2 Bridges (Nch: 8)



8 lamps / 1 Bridge (Nch: 4)



●Multi-cell Li-ion battery protection circuit

Compared with SMP, mount area is reduced by approx. 50%, an height is reduced by 60%.

