

Introducing the IGT0

The first new Silicon Power Switch since
the invention of the IGBT 45 years ago

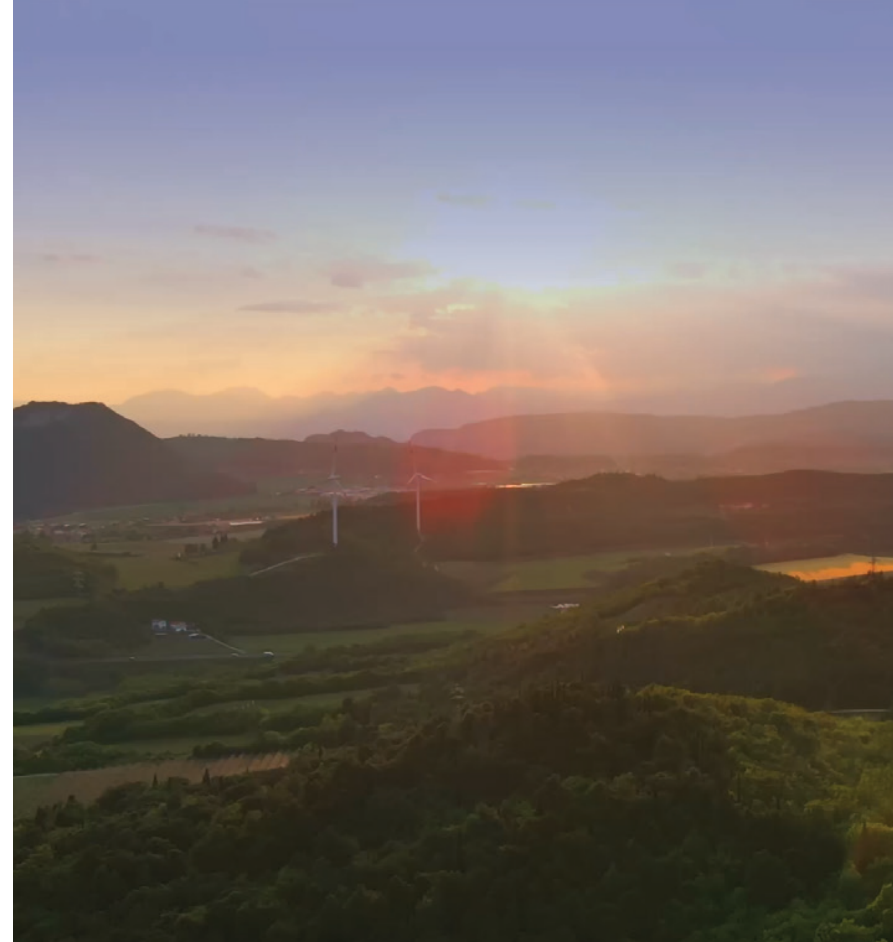
ABOUT PAKAL

Accelerating the global Electrification of Everything.

Pakal is a next-generation fabless power semiconductor company revolutionizing the high-voltage (>600 V) silicon power conversion market. **Having 37 patents and backed by a world-class team** — including the inventor of the Trench MOSFET and creators of the SBR and FERD diode families - Pakal brings novel physics in simple silicon to solve longstanding power challenges. **Pakal's IGTO(t) is an immediate drop-in upgrade for today's IGBT.**

Founded in 2017, Pakal is ISO certified and has offices in **7 locations** - San Francisco, Silicon Valley, Seattle, Hsinchu, Hillsboro, Sendai and Berlin.

pakal-tech.com





WORLD CLASS LEADERSHIP

The trusted team to leverage the superior IGT0(t) platform

Dr. Richard Blanchard and Dr. Vladimir Rodov lead the technology team - collectively, they have invented and commercialized the following:

- **Trench MOSFETs**
\$7B Annual Global Coverage
- **SBR Diode**
> \$300M Annual, marketed by Diodes Inc.
- **FERD Diode**
>\$350M Annual, marketed by ST Micro



Introducing the IGT0



Technology
Partner



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THE IGT0(t)

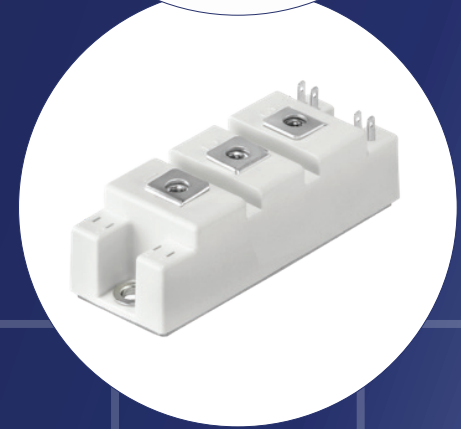
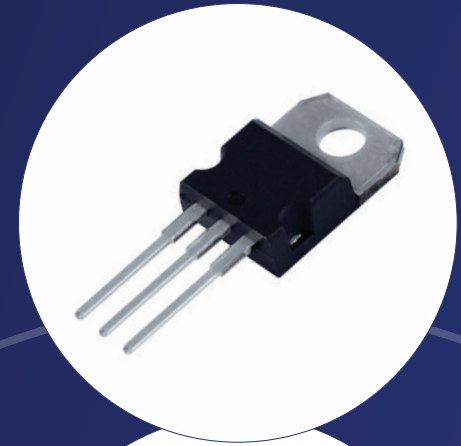
Revolutionizing power with superior efficiency

HIGHER EFFICIENCY ACHIEVED BY:

- Low Conduction Losses
- Low Switching Losses
- High Current Density

CUSTOMER BENEFITS:

- Higher Performance
- Energy Savings
- Shrink Heat Sink
- Shrink Magnetics
- Save on Cooling Costs
- Reduce System Cost

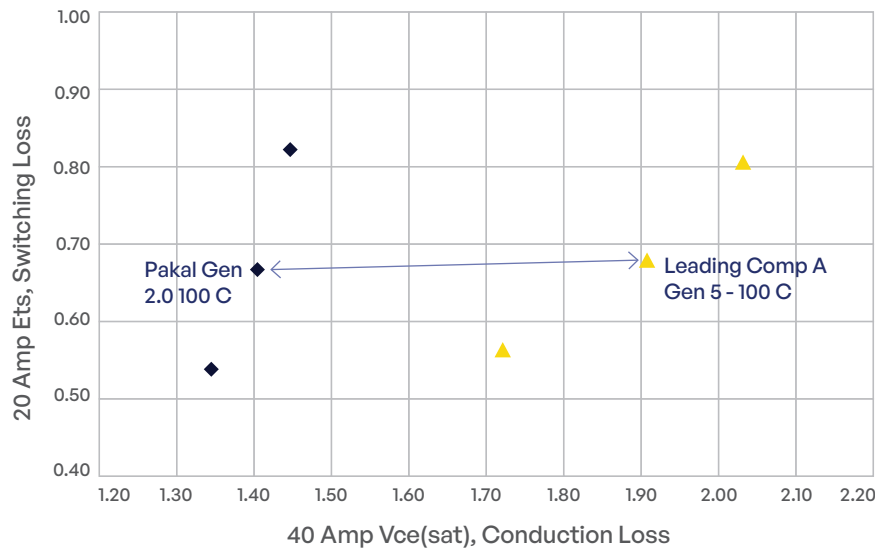


MEASURED RESULTS

IGTO(t) Gen 2.0 - beats the best IGBTs

650 Volt, 40 Amp Device Efficiency Comparison

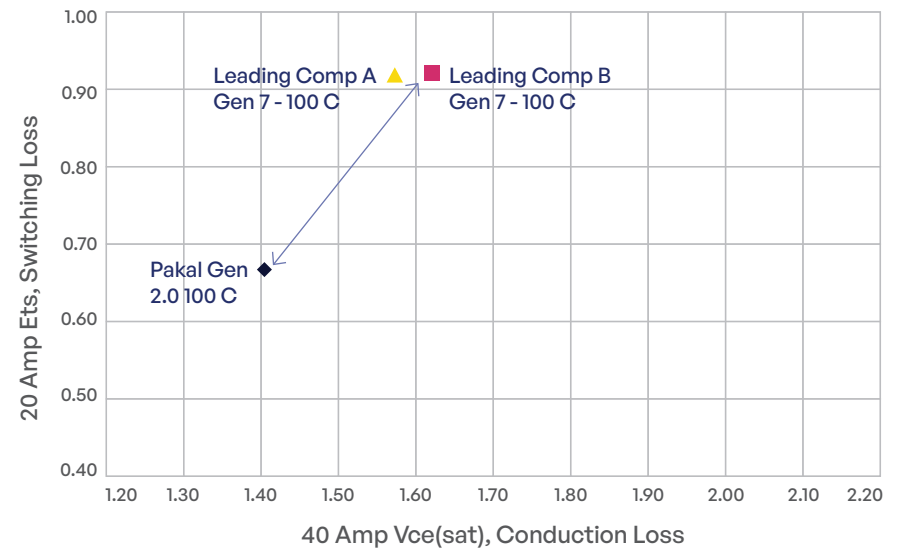
Key efficiency measurements -
at 25, 100, 150 C in T0-247 package



Pakal Gen 2.0 versus leading competitor A - Gen 5
At 100C, comparable Ets and 0.5 V lower conduction
losses Pakal Gen 2.0 - SALES NOW

Versus Leading Competitor's Gen 7 - 650 Volt, 40 Amp Device Efficiency

Key efficiency measurements -
at 100C in T0-247 package



Pakal Gen 2.0 versus leading competitor A & B - Gen 7
At 100C, lower Ets and lower conduction losses Pakal
Gen 2.0 - SALES NOW

Introducing the IGTO

KEY CUSTOMER ADVANTAGES

Dramatic efficiency gains



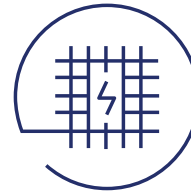
MOST EFFICIENT TECHNOLOGY

Lower Conduction Losses
Lower Switching Losses
High Current Density



VERY SHORT LEAD TIMES

Delivery within 3 to 4
weeks for low quantity
(<5K) orders



DROP IN UPGRADE (PIN-PIN)

No need to make any
hardware changes
or software tweaks



COST REDUCTION

Better Pricing for early
customers
Heat Sink Reduction
Cooling Cost Savings

USE CASES

Modern high-speed IGBTs have many applications

Here are a few high-value IGBT cases where IGTO(t) can drop in to improve performance:

- Power Factor Correction (PFC)
- PWM topologies
- Welding
- Solar
- Battery/Storage
- Uninterrupted Power Supply (UPS)
- Many OTHER Uses!

Impressive low conduction losses also give IGTO(t) strong advantage for:

- Induction Heating and Industrial Heating/Brazing



Thank you

FOR SAMPLES AND SALES



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