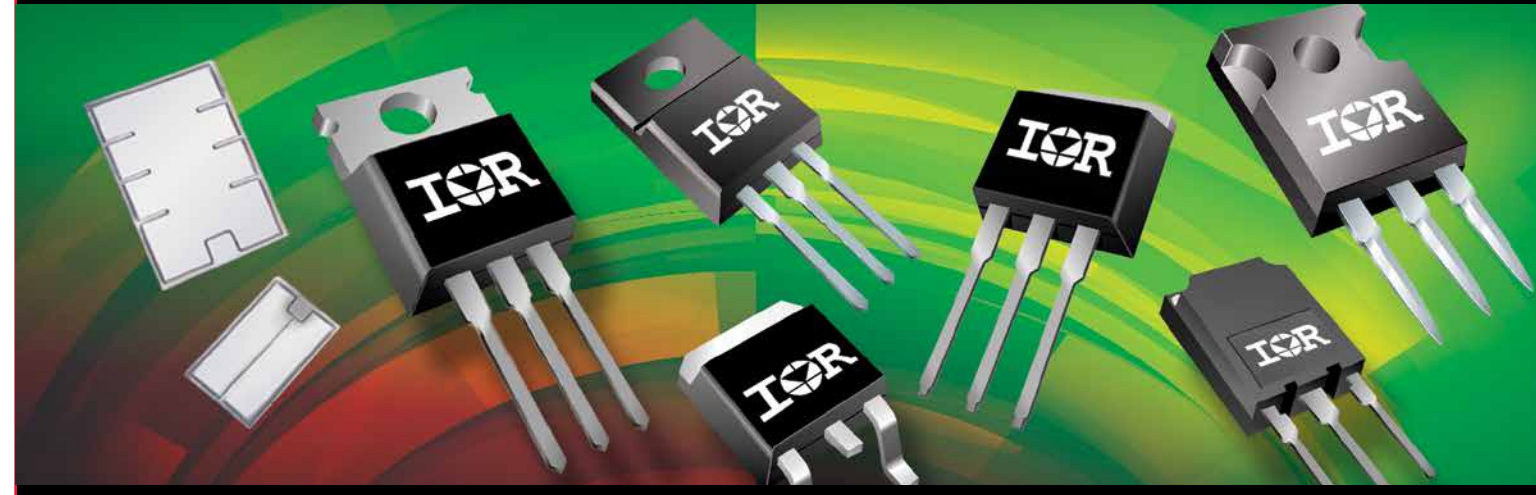


Product Line	Applications	Key Products
Energy Saving Products Integrated design platforms that enable customers to add energy-conserving features that achieve lower operating energy costs and manufacturing Bill of Material (BOM) costs.	<ul style="list-style-type: none"> • Appliances • Audio • Display • Industrial • Lighting • SMPS 	<ul style="list-style-type: none"> • Digital Control ICs • High-Voltage ICs • IGBTs • IRAM Integrated Power Modules • MERs • μPPM™
Enterprise Power Optimized power management system solutions that deliver benchmark power density, efficiency and performance in enterprise power.	<ul style="list-style-type: none"> • Servers • Storage Networks • Switchers & Routers • Workstations • Notebooks • Game Stations • Set-Top Box 	<ul style="list-style-type: none"> • DirectFET® plus • Sup/IRBuck® • PowIRstage® • CHiL Digital Controllers
Automotive Automotive grade power management solutions qualified to meet the needs of 12V, 24V and HEV/EV applications with a zero defect goal.	<ul style="list-style-type: none"> • AC and DC Motor Drives • Powertrain / Engine control • Body Electronics • Lighting • Class D Audio • Heavy Loads and Actuators 	Automotive Qualified: <ul style="list-style-type: none"> • HEXFET® Power MOSFETs • Intelligent Power Switches • Driver ICs • IGBTs • DirectFET® 2 • COOLiR™
Benchmark MOSFETs IR continues to lead the industry by offering power MOSFETs with the lowest $R_{DS(on)}$ and widest range of packages up to 250V for a diverse range of applications.	<ul style="list-style-type: none"> • Audio • Computing • Communications • Motor Control • Power Supply • Synchronous Rectification 	<ul style="list-style-type: none"> • Discrete HEXFET® MOSFETs • Dual HEXFET® MOSFETs • FETKY® • DirectFET®
HiRel Our discrete components, complex hybrid power module assemblies and rugged DC-DC converters utilize leading-edge power technology which, together with demanding environmental specifications help engineers to meet their toughest design challenges.	<ul style="list-style-type: none"> • Space • Military • Commercial Aviation • Rugged Industrial • Medical 	<ul style="list-style-type: none"> • RAD-Hard MOSFETs • Power Modules/Hybrid Solutions • Motor Control Solutions • DC-DC Converters

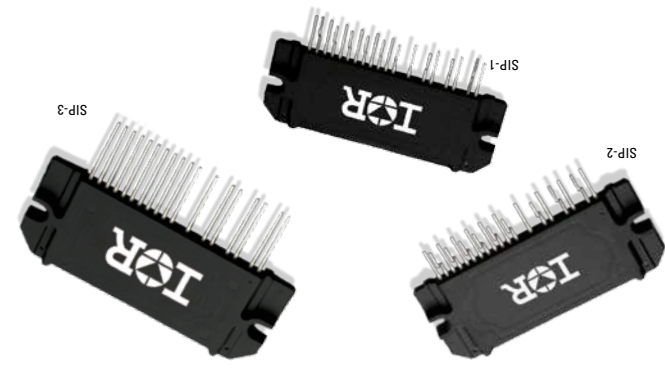
IGBT Product Selection Guide



International Rectifier
IR Rectifier
 THE POWER MANAGEMENT LEADER

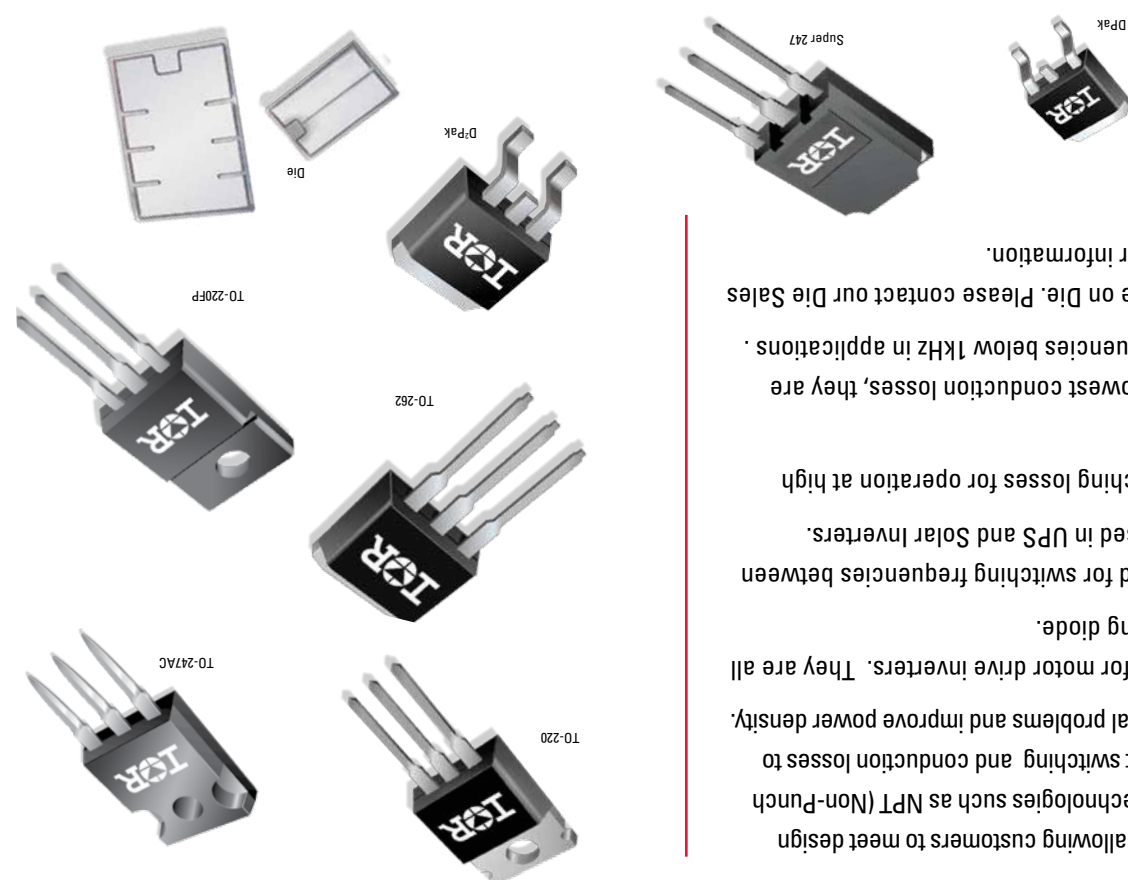
Part	Voltage & Shunt	Typical Load (W)	IO @ TC = 100°C (A RMS)	Package
IRAM506UP6A	600V Open Emitter	400W	3	SIP-1
IRAM506UP6B	600V Integr. Shunt	400W	3	SIP-1
IRAM136-1061A2	600V Open Emitter	750W	5	SIP-1A
IRAM136-1061A2	600V Integr. Shunt	750W	5	SIP-1A
IRAM510UP6A	600V Open Emitter	750W	5	SIP-1
IRAM510UP6B	600V Integr. Shunt	750W	5	SIP-1
IRAM512UP6A	600V Open Emitter	1000W	6	SIP-1
IRAM512UP6B	600V Integr. Shunt	1000W	6	SIP-1
IRAMX16UP6A	600V Open Emitter	1500W	8	SIP-2
IRAMX16UP6B	600V Integr. Shunt	1500W	8	SIP-2
IRAMX20UP6A	600V Open Emitter	2500W	10	SIP-2
IRAMX20UP6B	600V Integr. Shunt	2500W	10	SIP-2
IRAM136-3023B	150V Integr. Shunt	750W	15	SIP-3
IRAM136-3063B	600V Integr. Shunt	3000W	15	SIP-3

Integrated Power Modules



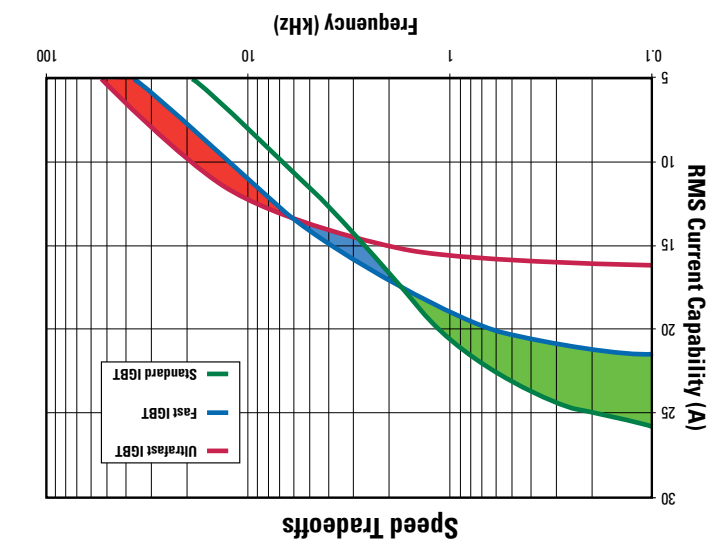
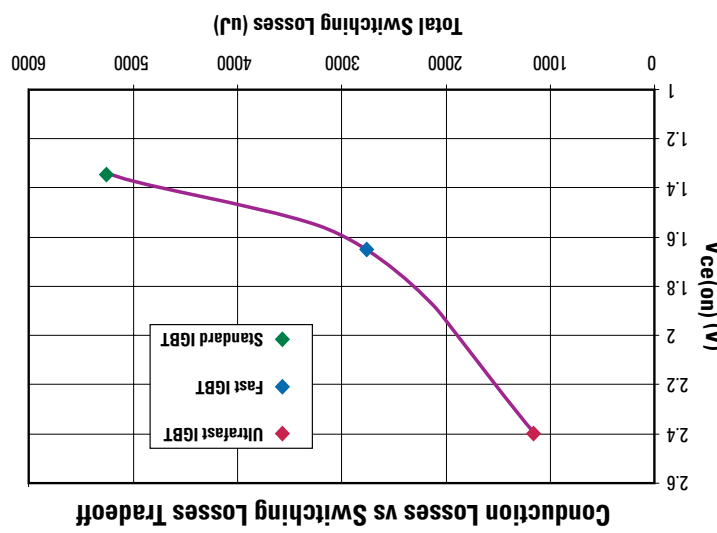
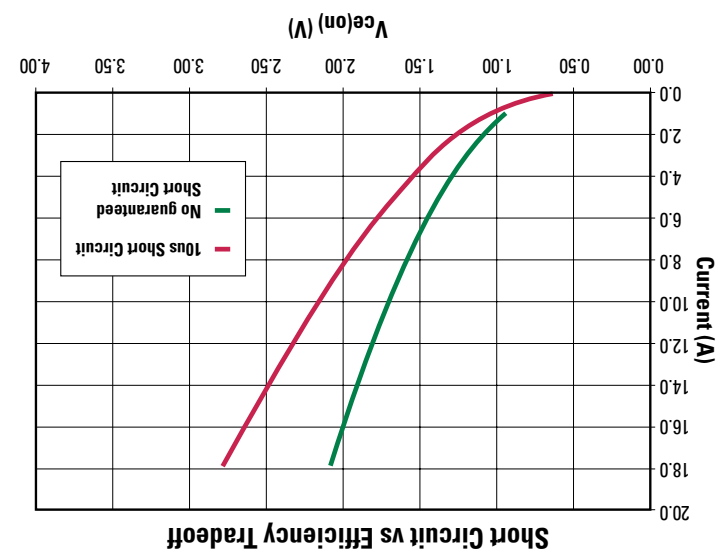
- SIP1 and SIP2 are widely accepted for 6A, 10A, 16A & 20A modules
- SIP1A is the new Heavy-Duty generation IRAMs featuring new ICs, Trench and improved power cycling ruggedness
- SIP3 carries higher power

IRAM

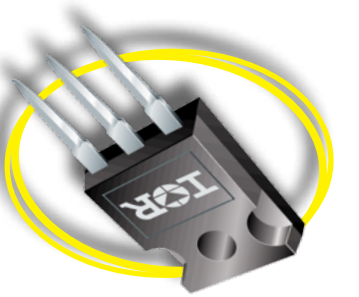


- IR offers a wide portfolio of IGBTs allowing customers to meet design and performance goals. Various technologies such as NPT (Non-Punch Through) and Trench allow lowest switching and conduction losses to increase efficiency, reduce thermal problems and improve power density.
- **Motor Drive** - Recommended for motor drive inverters. They are all co-packaged with freewheeling diode.
- **UPS, Solar Inverter** - Designed for switching frequencies between 15-25 kHz they are typically used in UPS and Solar Inverters.
- **PFC** - Designed with low switching losses for operation at high frequency up to 100kHz.
- **Welding, HID** - Designed for lowest conduction losses, they are best suited for switching frequencies below 1kHz in applications.
- **Die** - Most IGBTs are available on Die. Please contact our Die Sales Team if you require any further information.

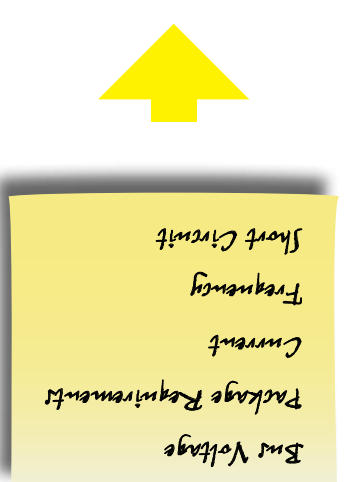
IGBTs



- Use application conditions
- Calculate conduction losses
- Calculate switching losses
- Provide MATH to show cost implications of design choices



Optimized IGBT



Conditions

