

IGBT Selector Tool

<http://mypower.irf.com/IGBT>



International
IOR Rectifier

Online selection guide – Selection Criteria



International Rectifier

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show selection criteria | IGBT selection | show selection criteria

IGBT selection criteria

hide criteria

Calculation of losses in Switchmode	Conduction losses assume 50% duty cycle. Switching losses are calculated at the frequency and voltage entered in the appropriate fields. They include the turn-on losses due to the reverse recovery of the complementary diode. Losses due to diode conduction are not included. This is a conservative assumption: if diode conducts for part of the 50% duty cycle the total losses in the package would actually be less.
Power dissipation	Junction temperature is assumed to be 25°C lower than maximum rated. Case temperature is assumed to be 100°C.
Value ranges	Frequency: min .01, max 350 kHz Peak current: min 0.1, max 500 A Switching voltage: min 0 V, max rated voltage of device. Note: only devices with rated voltage \geq 125% of this value will be considered.
Power losses	These values are typical values at the operating junction temperature.

resources

- Motor Control IC
- Current Sense IC
- High Voltage Gate Driver

Package type: Thru-hole

Package name: *any*

Explanation of selection criteria

Click to hide

<https://mypower.irf.com/IGBT>

Example - Motor Drive



show selection criteria | IGBT selection | show selection criteria

input

Configuration: copack

Package type: Thru-hole
Package name: TO-220AB

Bus Voltage: 400
Device Rated Voltage: \geq 600 V

Short circuit: \geq 10 μ s

Frequency: 16 kHz

Peak current: 8 A

of IGBTs to show: 5
Sort by: Price **see results**

resources

related sites

Conditions

Package = TO-220

Bus Voltage = 400V

T_{SC} Required

$F_{SW} = 16\text{kHz}$

$I_{peak} = 8\text{A}$

ESD Protection

ESD Testing

Welding Output Inverter

PDP Power Devices

IGBT articles

Color Inverters

<https://mypower.irf.com/IGBT>

Example - Motor Drive



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results

part #	VBR _{DSS}	package	power dissipat (W)			cost	sites
			tot.	cond.	sw.		
IRG4BC30KDPbF	600	TO-220AB	17.60	6.96	10.63	\$1.56	PFC IC Motor Control IC Current Sense IC High Voltage Gate Driver IC Intelligent Power Module
IRGB10B60KDPBF	600	TO-220AB	18.69	7.77	10.93	\$1.69	all IGBT packages
IRGB15B60KDPBF	600	TO-220AB	14.57	6.25	8.32	\$2.03	IGBT appnotes Gate Drive Design BV Testing Device Characteristics Application Characterization ESD Protection ESD Testing Welding Output

resources

Lowest Price

Lowest Losses

Configuration: copack

Package type: Thru-hole

Package name: TO-220AB

Bus Voltage: 400

Device Rated Voltage: >= 600 V

Short circuit: >= 10 μ s

Frequency: [input field]

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Example – Motor Drive Optimization



results

	package	power dissipation (W)			1K disti cost
		tot.	cond.	sw.	
IRGB4043DPbF	600 TO-220AB	17.20	10.24	6.97	\$1.46
IRGB4060DPbF	600 TO-220AB	14.59	7.82	6.77	\$1.55
IRG4BC30KDPbF	600 TO-220AB	17.60	6.96	10.63	\$1.56
IRGB10B60KDPBF	600 TO-220AB	18.69	7.77	10.93	\$1.69
IRGB4064DPbF	600 TO-220AB	14.38	7.07	7.31	\$1.86

Select Part

resources

- related sites
- PFC IC
- Motor Control IC
- Current Sense IC
- High Voltage Gate Driver IC
- Intelligent Power Module
- all IGBT

input

Configuration: copack

Package type: Thru-hole
Package name: TO-220AB


Bus Voltage: 400
Device Rated Voltage: >= 600 V

Short circuit: >= 5 μ s

Frequency: 16 kHz

If Tsc can be reduced from 10usec to 5usec lower price and lower power loss options become available

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Part Search Site Search
VIEW CART

Part: IRGB4060DPBF
Description: 600V UltraFast Copack Trench IGBT in a TO-220AB package
Support Docs: [Datasheet](#) [News Release](#) [Lead Free Datasheet](#)


Download Datasheet

Specifications	
Parameter	Value
Package	TO-220AB
Circuit	Co-Pack
V _{CES} (V)	600
V _{CE(ON)} (V)	1.85
I _C @ 25C (A)	16
I _C @ 100C (A)	8.0
P _D @25C (W)	99
PbF	PbF Option Available

Order Samples

Packaging Options						
Product ID	Description	Status	Standard Pack	1K Budgetary Pricing (USD)	Qty	
IRGB4060DPBF	A IRGB4060DPBF with Standard Packaging	Active	50	\$1.44	15	ADD TO CART

Package Support Docs



TO-220AB

- [Case Outline](#)
- [Leadform Options](#)
- [Part Marking](#)

End of IGBTs

Questions

