

## Wide Range of IGBT Families

Highly efficient power supply circuits can be achieved by combining Renesas Electronics IGBTs and PFC controllers. Renesas supplies ultra-compact, high-performance IGBTs for built-in flash units



for digital still cameras and mobile phones, as well as specialized IGBTs for applications such as plasma display panels. Our product line-up also includes large-capacity IGBTs for power supply circuits such as PFCs and for inverters used in motor drives, UPS, and solar power arrays.

### Key Features and Target Applications

#### High-efficiency, Low-power Dissipation

- RJH608 series for > 3 kW PFC applications
- Ultra-low  $V_{ce(sat)}$  RJH60F series for soft switching and induction heating applications

#### Very Rugged and High Reliability

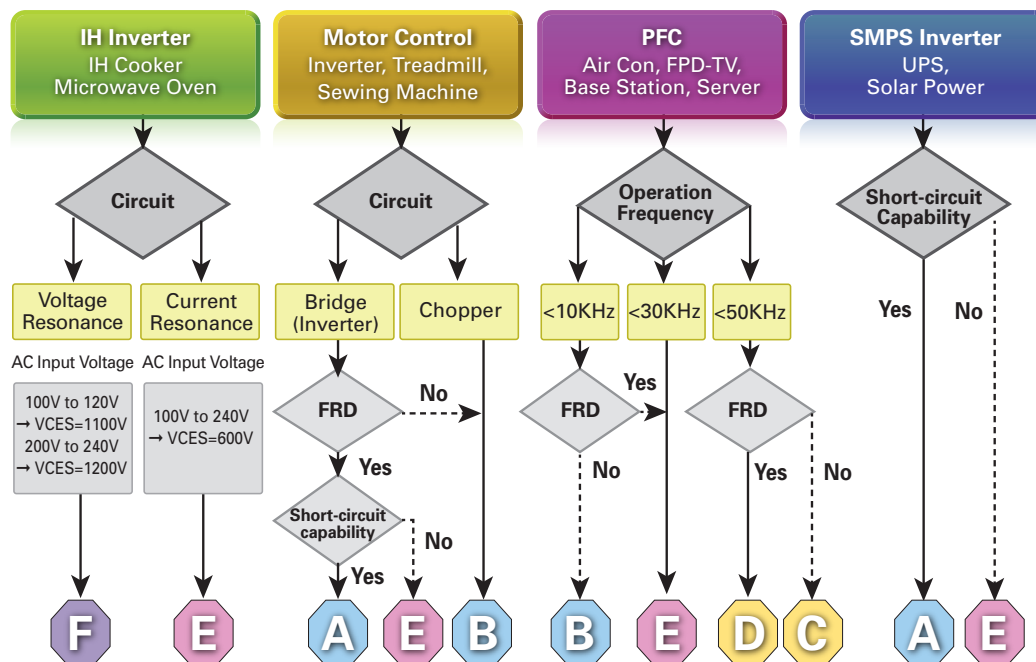
- Up to 8 $\mu$ s Short-circuit Capable RJH608M series for industrial motor drives
- Gate-emitter ratings up to +/- 30V
- Low emitter leakage currents

**Reverse Conducting 600V, 5 $\mu$ s SC capable RJH60A8 series for small appliance motor drives**

**Non FRD (Fast-recovery Diode) RJP60x series for chopper applications**

## Easy Selection Process

### Step 1: Follow the Application and Circuit Specific Flow Chart



A, B – F : Recommended IGBTs See Other Side for Part Numbers

# IGBT Products

Selection Process - (Continued)

## Step 2: Select Suitable IGBT from Table

Features	Gr	VCES (V)	IC (A)		Package	FRD * Y: built -: Non	IGBT				FRD				
			25°C	100°C			VCE(sat) typ.		tf typ. (Inductive Load)			tsc ** typ (us)	VF typ (V)		
							(V)	Condition Ic (A)	(ns)	Conditions Ic (A)					
High-destruction capability, Low VCE(Sat)	A	600	20	10	TO-220FL	Y	1.9	10	90	10	5	1.4			
			20	10	LDBPAK-S	Y	1.9	10	90	10	5	1.4			
			25	12	TO-220FL	Y	1.7	12	80	12	5	1.2			
			25	12	LDBPAK-S	Y	1.7	12	80	12	5	1.2			
			35	17	TO-220FL	Y	1.6	17	80	17	5	1.3			
			35	17	LDBPAK-S	Y	1.6	17	80	17	5	1.3			
			45	22	TO-3P	Y	1.6	22	70	22	5	1.4			
			45	22	TO-3PFM	Y	1.6	22	70	22	5	1.4			
			75	37	TO-3P	Y	1.6	37	50	37	5	1.4			
			75	37	TO-3PFM	Y	1.6	37	50	37	5	1.4			
	B	600	80	40	TO-3P	Y	1.6	40	50	40	5	1.4			
			80	40	TO-3PFM	Y	1.6	40	50	40	5	1.4			
			90	50	TO-3P	Y	1.6	50	50	50	5	1.4			
			90	50	TO-3PFM	Y	1.6	50	50	50	5	1.4			
			50	25	LDBPAK-S	-	1.4	25	90	30	-	1.6			
			35	17	TO-3PSG	-	1.6	17	80	17	5	-			
			45	22	TO-220FL	-	1.6	22	70	22	5	-			
			45	22	LDBPAK-S	-	1.6	22	70	22	5	-			
			45	22	TO-3PFM	-	1.6	22	70	22	5	-			
			45	22	TO-3P	-	1.6	22	70	22	5	-			
Very high-speed switching	C	600	40	-	TO-220AB	-	2.65	40	40	40	-	-			
			40	-	TO-3P	-	2.65	40	40	40	-	-			
			40	-	TO-3P	Y	3	40	40	40	-	-			
			45	-	TO-3P	Y	3.4	45	45	40	-	-			
	D	600	40	-	TO-3P	Y	3.5	50	50	40	-	-			
			60	-	TO-3P	Y	3.5	60	60	40	-	-			
			40	20	TO-3P	Y	1.4	20	80	30	-	1.6			
			40	20	TO-247	Y	1.4	20	80	30	-	1.6			
High-speed switching, Low VCE(sat)	E	600	50	25	TO-3P	Y	1.4	25	90	30	-	1.6			
			50	25	TO-247	Y	1.4	25	90	30	-	1.6			
			60	30	TO-3P	Y	1.4	30	80	30	-	1.6			
			60	30	TO-247	Y	1.4	30	80	30	-	1.6			
			80	40	TO-3P	Y	1.37	40	80	30	-	1.6			
			80	40	TO-247	Y	1.37	40	80	30	-	1.6			
			85	45	TO-3P	Y	1.35	45	95	30	-	1.6			
			85	45	TO-247	Y	1.35	45	95	30	-	1.6			
			90	50	TO-3P	Y	1.35	50	95	30	-	1.6			
			90	50	TO-247	Y	1.35	50	95	30	-	1.6			
			High Voltage	F	1100	55	30	TO-247	Y	1.6	30	(100)	30	-	3
						60	35	TO-247	Y	1.7	35	(100)	35	-	3
40	20	TO-247				Y	2	20	(100)	20	-	4.2			
50	25	TO-247				Y	1.95	25	(100)	25	-	4.2			
1200	55	30			TO-247	Y	1.8	30	(100)	30	-	3			
	60	35			TO-247	Y	1.85	35	(100)	35	-	3			
	1350	60			35	TO-247	Y	1.95	35	(100)	35	-	3.4		

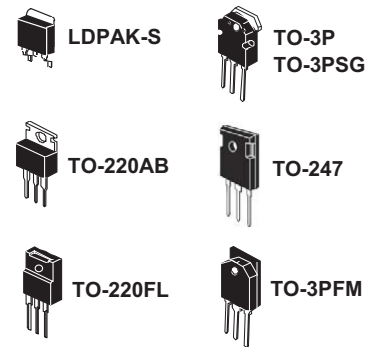
Remarks : ( ) : Tentative value, - signifies N/A, \*FRD: Y signifies built-in FRD

## Support and Collateral

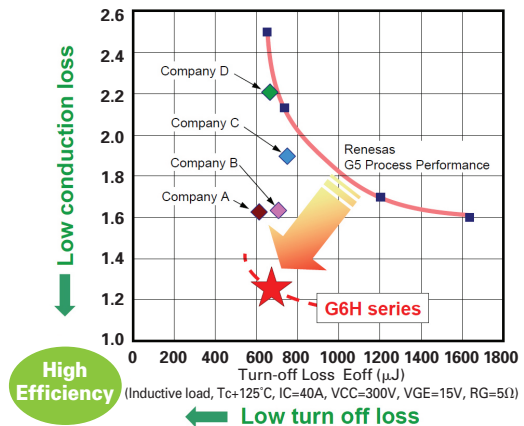
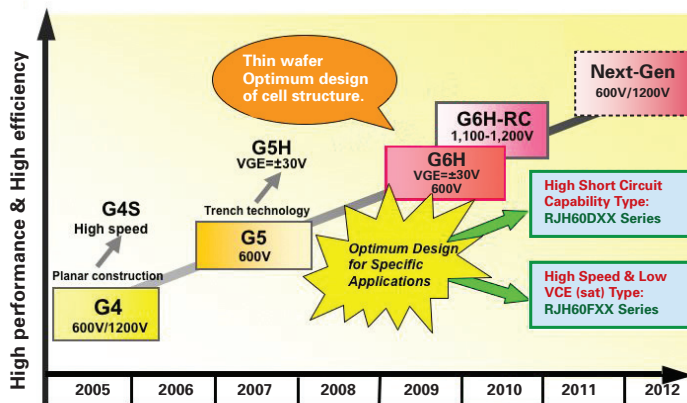
<http://am.renesas.com/products/discrete/>

Sales Support

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## Development Roadmap and Trends



Renesas Electronics America Inc. | [www.renesas.com](http://www.renesas.com)  
2880 Scott Boulevard, Santa Clara, CA 95050-2554 | Phone: 1 (408) 588-6000

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