

## Fuji Electric 7th Generation IGBT X-Series


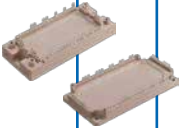
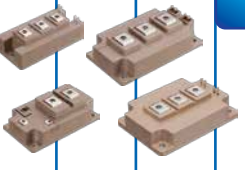

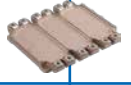

The 7th-generation technology utilized in Fuji Electric's X-Series enhances current rating, power density, cycling capability, and heat transfer in a smaller package. Our latest IGBT module offers improved efficiency and low losses combined with higher output currents at higher operating temperatures up to 175°C. Wire diameters and lengths are optimized and a newly developed high strength solder material is applied to improve the delta Tj power cycling capability with High-Heat-Resistant Silicone Gel to increase the long-term reliability of our modules.

What separates our products from others is our in-depth understanding of our customer's present and future application needs. This is evident in our 7th generation IGBT modules, which feature improved diode characteristics with reduced die size to achieve high efficiency.

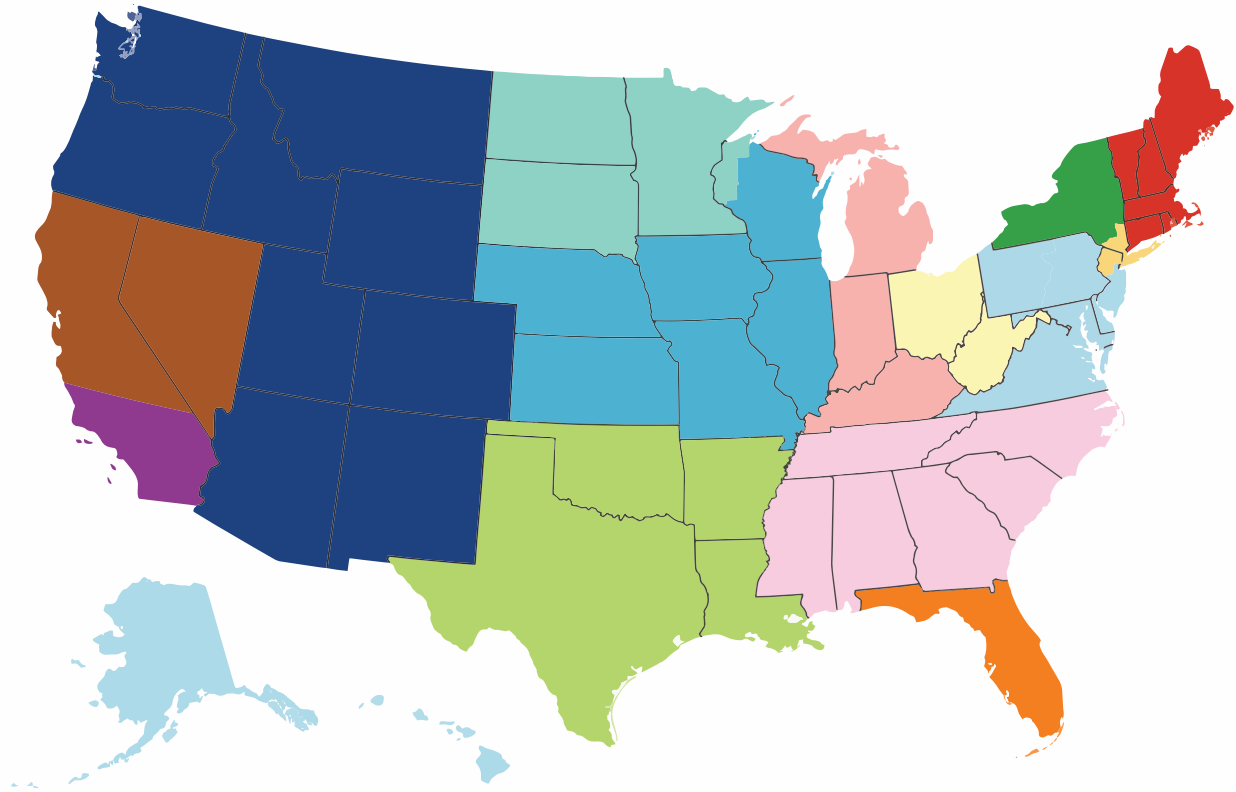
### 7th Generation IGBT Technology:

1. Optimized Field-Stop Layer and Finer Pattern Trench Pitch
2. Ultra-Sonic Welding for Higher Joints and Reliability
3. Downsizing of IGBT Modules:
  - ✓ Enhanced current rating with **36%** size reduction
4. High Long-term Reliability :
  - ✓ New plastic with **CTI>600** for higher anti-cracking
  - ✓ High thermal cycling capability even with Cu-baseplate
5. High Heat Resistant Silicone Gel:
  - ✓ New Silicone Gel was developed to withstand high temperatures
  - ✓ Long Term Insulating capability at 175°C
6. Optimized Wire Bonding:
  - ✓ Optimized design of wire diameter and length
7. Tj (operating) = **175°C** Guaranteed
8. Improved Diode:
  - ✓ 10% reduction in switching loss at reverse recovery dv/dt
9. Low Internal Leakage Induction by Parallel Cu-bar

### 1200V X - Series

	Current													Enhanced		
	10A	15A	25A	35A	50A	75A	100A	150A	200A/ 225A	300A	400A/ 450A	600A	800A/ 900A	1200A	1400A	1800A
Small IPM	Small PIM1		Small PIM2													
EP/PC			EP2		EP3			PC3								
Std. 2 in 1					34mm		45mm		62mm		80mm					
Dual Xt							Dual XT									
Ep+									EP+							
PP											PP2		PP3			

## North American Sales Network - Fuji Electric Semiconductor



Company	Contact	Phone	Email
 Conti-Younger Associates	Rob Conti	(508) 485-7204	RConti@conti-younger.com
 K&R Engineering	Bill Westwood	(516) 241-4587	bill@kreng.com
 ICS Solutions, Inc.	Tony Longo	(315) 432-8236	tlongo@ics-solutions.org
 Palladium	Gary Skipper	(937) 339-4750	gskipper@palladiumtech.com
 R.C.O.M., Inc.	Warren Twiehaus	(763) 557-2801	warrent@rcominc.com
 Cartwright and Bean	David McCoy	(770) 416-6075	sales@cartbean.com
 Moats Yates	Chris Moats	(321) 427-0460	sales@moatsyates.com
 RK Miller	Robb Miller	(724) 612-6123	rmiller@rkmallc.com
 Centramark	Shawn Thomas	(832) 282-8420	sthomas@cmatex.com
 Centramark	Terry Ramsey	(972) 414-8188	tramsey@cmatex.com
 MicroElect	Zahir Ahmed	(408) 282-3508	zahir@microelecs.com
 SA Larson & Associates	Scott Larson	(626) 482-4999	scott@salarson.com
 SA Larson & Associates	Blair Larson	(949) 355-2347	blair@salarson.com
 Sigma Component Design, Ltd. (Canada)	John Grobanopoulos	(905) 696-8800	johng@sigmacomponent.com
 Fuji Electric Corp. of America	Leo Fick	(732) 600-6309	lfick@fujielectric.com
 Fuji Electric Corp. of America	Tom Twitchell	(262) 547-0185	ttwitchell@fujielectric.com
 Fuji Electric Corp. of America	Jim Usack	(607) 266-9494	jusack@fujielectric.com