

## Main Patents

### Patents registered in 2003

Registration Number	Title	Inventors
3404349	<b>Uninterruptible Power Supply and Its Operation Method</b>	Satoshi Atou, Shared with NTT Data Inc.
3414958	<b>Winding Method and Winding Machine</b>	Kazuyuki Kitazawa, Yutaka Takeuchi, Shigeto Murata
3423485	<b>Shaft Structure</b>	Kazuyuki Kitazawa, Ryouichi Hoyano
3439954	<b>Outer Rotor Type Stepping Motor</b>	Hisayuki Miyajima, Shigenori Miyairi
3432356	<b>Manufacturing Method of Divided Type Stator for Rotary Electric Machinery</b>	Kunitoshi Kurihara, Masahiro Koyama, Kazuyuki Kitazawa, Kazuhito Yamaura
3431409	<b>Armature for Rotary Electric Device</b>	Hidenori Morita, Akio Miyahara
3428864	<b>Motor with Cooling Fan</b>	Shinjiro Yokozawa, Yutaka Takeuchi, Takashi Sekiguchi, Hideo Kidoku
3428859	<b>Motor with Cooling Fan and Cooling Fan</b>	Shinjiro Yokozawa, Yutaka Takeuchi, Masanori Kawai, Hideo Kidoku
3432380	<b>Brushless Fan Motor and Its Manufacturing Method</b>	Kesatsugu Watanabe, Honami Oosawa, Hitoshi Takizawa, Osamu Kawakami
3432370	<b>Winding Method of Divided Core</b>	Kazuyuki Kitazawa, Yutaka Takeuchi, Shintarou Koichi, Takuya Iwashita
3450099	<b>Method of Identifying the Life of a Brake for a Motor, and Its Device</b>	Keigo Kikuchi
3454345	<b>Inverter Device</b>	Yoshihiro Sekino, Minoru Yanagisawa
3450124	<b>Manufacturing Method of Stator for Rotary Electric Machinery</b>	Tensho Nakamura, Shinjiro Yokozawa, Masahiro Koyama
3466448	<b>DC-DC Converter</b>	Yoshihiro Sekino
3454707	<b>Electronic Component Cooling Apparatus</b>	Yuichi Kodaira, Toshiki Ogawara, Nobumasa Kodama
3506907	<b>Interface Circuit of Motor Control Device</b>	Shigejiro Miyata, Shingo Takeuchi
3502075	<b>Stepping Motor Driving Device</b>	Katsuhiko Oono, Toshikatsu Ichida, Shigeo Ebinuma
3514948	<b>Stator for Rotary Electric Machinery, and Its Manufacturing Method</b>	Kazuyuki Kitazawa, Masahiro Koyama, Yutaka Takeuchi, Kiyoshi Uchibori
3514984	<b>Electromagnetic Induction Type Rotary Sensor</b>	Hideyuki Ishii, Shigeharu Katou, Sakae Kishi
3514953	<b>Cooling Fan Drive Control Device of Motor with Cooling Fan</b>	Shinjiro Yokozawa, Hideo Kidoku, Takashi Sekiguchi, Masanori Kawai
3510120	<b>Air Flow Fan with Waterproof Structure</b>	Michinori Watanabe, Kesatsugu Watanabe, Akiyoshi Kuroda
3510092	<b>Unit Type Electric Machine Control Device and Motor Control Device</b>	Yoshihiko Oouchi, Nobuo Arakawa, Shared with Japan Aviation Electronics Industry, Limited
3520961	<b>Inverter Device</b>	Minoru Yanagisawa, Yuuji Wada
U.S. Patent 643747B1	<b>SINGLE-BEARING PERMANENT-MAGNET MOTOR</b>	Toshiki Ogawara, Tomoaki Ikeda
U.S. Patent 6496394B2	<b>UNINTERRUPTIBLE POWER SYSTEM</b>	Hiroyuki Hanaoka, Masahiko Nagai, Minoru Yanagisawa
U.S. Patent 6551074B2	<b>CENTRIFUGAL FAN WITH WATERPROOF STRUCTURE</b>	Naruhiko Kudou, Kesatsugu Watanabe
U.S. Patent 6556459B2	<b>UNINTERRUPTIBLE POWER SUPPLY AND METHOD OF TURNING OFF AC SWITCH FOR UNINTERRUPTIBLE POWER SUPPLY</b>	Yoshiaki Okui, Minoru Yanagisawa
U.S. Patent 6556601B2	<b>METHOD FOR COMPENSATING FOR OUTPUT OF SEMICONDUCTOR LUMINOUS DEVICE AND APPARATUS THEREFOR</b>	Shin Nagata
U.S. Patent 6597079B2	<b>INTERIOR PERMANENT MAGNET SYNCHRONOUS MOTOR</b>	Toshihito Miyashita, Satoru Onodera, Manabu Matsushita

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U.S. Patent 6611442B2	CONTROLLED RECTIFIER EQUIPMENT WITH SINUSOIDAL WAVEFORM SUPPLY CURRENT	Hiroyuki Hanaoka, Hiroshi Sakaba
U.S. Patent 6619385B2	COOLING APPARATUS FOR ELECTRONIC ELEMENT	Michinori Watanabe, Michihiro Suzuki, Toshiyuki Nakamura
U.S. Patent 6621699B2	ELECTRONIC COMPONENT COOLING APPARATUS	Michihiro Watanabe, Toshiki Ogawara, Haruhisa Maruyama
Taiwan Patent 165598	Electronic Component Cooling Apparatus	Yuichi Kodaira, Haruhisa Maruyama, Naoko Ishiwatari
Taiwan Patent 173189	Electronic Component Cooling Apparatus	Yuichi Kodaira
Taiwan Patent 178376	Rotary Electric Machinery	Honami Oosawa, Munenori Takakuwa, Ryuuji Kobayashi, Yukio Oouchi
Taiwan Patent 180155	Permanent Magnet Installed Synchronous Motor	Toshihito Miyashita, Satoru Onodera, Manabu Matsushita
Taiwan Patent 199599	Filter Unit for Air Flow Fan	Hiromitsu Kuribayashi, Tomoaki Ikeda, Yoshikazu Ooya