



# BIPOLAR TRANSISTOR MODULES

## Ratings and Specifications

### 20 High-speed switching 1400 volts class power transistor modules

- Suited for motor control applications with 575V AC input.
- Power transistors and free wheels are built into one package.
- Wide SOA with high-speed switching

Device type	V <sub>CB0</sub> Volts	V <sub>CEO</sub> Volts	V <sub>CEX</sub> (sus) Volts	I <sub>c</sub> cont. Amps.	P <sub>c</sub> Watts	h <sub>FE</sub> min.	(T <sub>j</sub> =125°C)		Switching time (Max.)			Package	Net mass Grams	Equivalent circuit Page 32, 33
							I <sub>c</sub> Amps.	V <sub>CE</sub> Volts	t <sub>on</sub> μsec.	t <sub>sig</sub> μsec.	t <sub>f</sub> μsec.			
2DI50Z-140	1400	1400	1200	50	400	75	50	2.8	3.0	15	2	M204	175	Fig. E4
2DI75Z-140	1400	1400	1200	75	500	75	75	2.8	3.0	15	2	M209	230	Fig. E4
2DI100Z-140	1400	1400	1200	100	800	75	100	2.8	3.0	15	2	M210	470	Fig. E5
2DI150Z-140	1400	1400	1200	150	1000	75	150	2.8	3.0	15	2	M210	470	Fig. E5
1DI300Z-140	1400	1400	1200	300	2000	75	300	2.8	3.0	15	2	M106	460	Fig. D2

### 21 Power transistor modules with zener diode for snubber circuit

- Built-in zener diode permits wiring connections in the snubber circuit to be simplified merely by connecting a power transistor module to an external capacitor.
- Two types of packages for the positive (P type) and negative (N type) legs allow the wiring distance between two power transistors to be shortened.
- Suited for parallel connection in the large capacity inverters

Device type	V <sub>CB0</sub> Volts	V <sub>CEO</sub> Volts	V <sub>CEO</sub> (sus) Volts	I <sub>c</sub> cont. Amps.	P <sub>c</sub> Watts	h <sub>FE</sub> min.	(T <sub>j</sub> =125°C)		Switching time (Max.)			Package	Net mass Grams	Equivalent circuit Page 33, 34
							I <sub>c</sub> Amps.	V <sub>CE</sub> Volts	t <sub>on</sub> μsec.	t <sub>sig</sub> μsec.	t <sub>f</sub> μsec.			
1DI300MN-050	600	600	450	300	1380	3000	300	2.5	5.5	8.0	2.0	M115	430	Fig. D8
1DI300MP-050	600	600	450	300	1380	3000	300	2.5	5.5	8.0	2.0	M114	430	Fig. D8
1DI400MN-050	600	600	450	400	1500	2000	400	2.5	8.5	8.0	2.0	M115	430	Fig. D8
1DI400MP-050	600	600	450	400	1500	2000	400	2.5	8.5	8.0	2.0	M114	430	Fig. D8
1DI300MN-120	1200	1200	900	300	2000	1500	300	4	7.0	15.0	3.0	M118	430	Fig. F2
1DI300MP-120	1200	1200	900	300	2000	1500	300	4	7.0	15.0	3.0	M117	430	Fig. F2
1DI400MN-120	1200	1200	900	400	3000	2000	400	4	3.0	15.0	3.0	M118	430	Fig. F2
1DI400MP-120	1200	1200	900	400	3000	2000	400	4	3.0	15.0	3.0	M117	430	Fig. F2
1DI200ZN-120	1200	1200	1200 *	200	1400	100	200	5.0	3.0	15.0	2.0	M115	430	Fig. D9
1DI200ZP-120	1200	1200	1200 *	200	1400	100	200	5.0	3.0	15.0	2.0	M114	430	Fig. D9
1DI300ZN-120	1200	1200	1200 *	300	2000	100	300	5.0	3.0	15.0	2.0	M115	430	Fig. D9
1DI300ZP-120	1200	1200	1200 *	300	2000	100	300	5.0	3.0	15.0	2.0	M114	430	Fig. D9

\* V<sub>CEX</sub> (sus)

### 22 Single in-line package/6 in one-package power transistor modules

- Allows devices to be reduced in size by high packaging density.
- High h<sub>FE</sub> transistors are built into MS type.

Device type	V <sub>CB0</sub> Volts	V <sub>CEO</sub> Volts	V <sub>CEO</sub> (sus) Volts	I <sub>c</sub> cont. Amps.	P <sub>c</sub> Watts	h <sub>FE</sub> min.	(T <sub>j</sub> =125°C) *		Switching time (Max.)			Package	Net mass Grams	Equivalent circuit Page 34, 36
							I <sub>c</sub> Amps.	V <sub>CE</sub> Volts	t <sub>on</sub> μsec.	t <sub>sig</sub> μsec.	t <sub>f</sub> μsec.			
6DI10MS-050	600	600	450	10	50	100	10	2	2.0	8	2	M615	65	Fig. H5
6DI15S-050	600	600	450	15	60	100	15	5	1.0	12	2	M614	40	Fig. H4
6DI15MS-050	600	600	450	15	60	150	15	2.5	2.0	8	2	M615	65	Fig. J7
6DI20MS-050	600	600	450	20	80	200	20	2.5	2.0	8	2	M615	65	Fig. J7

\* For 6DI15S-050 T<sub>j</sub> = 25°C.