



IGBT Modules, N series

600 volts class/High speed switching and low noise

Device type	V _{CES} Volts	V _{GES} Volts	I _C Cont. Amps.	P _C Watts	V _{CE(sat)} (V _{GE} =15V)		Switching time Max.			Package	Net mass Grams
					Max. Volts	I _C Amps.	ton μsec.	toff μsec.	tf μsec.		
2MBI50N-060	600	±20	50	250	2.8	50	1.2	1.0	0.35	M232	180
2MBI75N-060	600	±20	75	320	2.8	75	1.2	1.0	0.35	M232	180
2MBI100N-060	600	±20	100	400	2.8	100	1.2	1.0	0.35	M232	180
2MBI150NC-060	600	±20	150	600	2.8	150	1.2	1.0	0.35	M232	180
2MBI150N-060	600	±20	150	600	2.8	150	1.2	1.0	0.35	M233	240
2MBI200N-060	600	±20	200	780	2.8	200	1.2	1.0	0.35	M233	240
2MBI200N-060-03	600	±20	200	780	2.8	200	1.2	1.0	0.35	M233	240
2MBI300N-060	600	±20	300	1100	2.8	300	1.2	1.0	0.35	M233	240
2MBI300N-060-04	600	±20	300	1100	2.8	300	1.2	1.0	0.35	M233	240
2MBI300NB-060	600	±20	300	1100	2.8	300	1.2	1.0	0.35	M235	370
2MBI300NB-060-01	600	±20	300	1100	2.8	300	1.2	1.0	0.35	M235	370
2MBI400N-060	600	±20	400	1500	2.8	400	1.2	1.0	0.35	M235	370
2MBI400N-060-01	600	±20	400	1500	2.8	400	1.2	1.0	0.35	M235	370
1MBI600NP-060	600	±20	600	2000	2.8	600	1.2	1.0	0.35	M128	370
1MBI600NN-060	600	±20	600	2000	2.8	600	1.2	1.0	0.35	M129	370
2MBI600NT-060	600	±20	600	2500	2.9	600	1.2	1.0	0.35	M238	470

1200 volts class/High speed switching and low noise

Device type	V _{CES} Volts	V _{GES} Volts	I _C Cont. Amps.	P _C Watts	V _{CE(sat)} (V _{GE} =15V)		Switching time Max.			Package	Net mass Grams
					Max. Volts	I _C Amps.	ton μsec.	toff μsec.	tf μsec.		
2MBI50N-120	1200	±20	50	400	3.3	50	1.2	1.5	0.5	M232	180
2MBI75N-120	1200	±20	75	600	3.3	75	1.2	1.5	0.5	M232	180
2MBI100N-120	1200	±20	100	780	3.3	100	1.2	1.5	0.5	M234	370
2MBI100NB-120	1200	±20	100	780	3.3	100	1.2	1.5	0.5	M235	370
2MBI100NC-120	1200	±20	100	780	3.3	100	1.2	1.5	0.5	M233	240
2MBI150N-120	1200	±20	150	1100	3.3	150	1.2	1.5	0.5	M234	370
2MBI150NB-120	1200	±20	150	1100	3.3	150	1.2	1.5	0.5	M235	370
2MBI150NC-120	1200	±20	150	1100	3.3	150	1.2	1.5	0.5	M233	240
2MBI200N-120	1200	±20	200	1500	3.3	200	1.2	1.5	0.5	M234	370
2MBI200NB-120	1200	±20	200	1500	3.3	200	1.2	1.5	0.5	M235	370
2MBI200NB-120-01	1200	±20	200	1500	3.3	200	1.2	1.5	0.5	M235	370
1MBI200N-120	1200	±20	200	1500	3.3	200	1.2	1.5	0.5	M127	380
2MBI300N-120	1200	±20	300	2100	3.3	300	1.2	1.5	0.5	M236	460
2MBI300N-120-01	1200	±20	300	2100	3.3	300	1.2	1.5	0.5	M236	460
1MBI300N-120	1200	±20	300	2100	3.3	300	1.2	1.5	0.5	M127	380
1MBI300NP-120	1200	±20	300	2100	3.3	300	1.2	1.5	0.5	M128	370
1MBI300NN-120	1200	±20	300	2100	3.3	300	1.2	1.5	0.5	M129	370
1MBI400N-120	1200	±20	400	3100	3.3	400	1.2	1.5	0.5	M127	380
1MBI400NP-120	1200	±20	400	3100	3.3	400	1.2	1.5	0.5	M128	370
1MBI400NN-120	1200	±20	400	3100	3.3	400	1.2	1.5	0.5	M129	370

Letter symbols

V_{CES}: Collector-to-emitter rated voltage
(Gate-to-emitter short-circuited)

V_{GES}: Gate-to-emitter rated voltage
(Collector-to-emitter short-circuited)

I_C: Rated collector current

P_C: Maximum power dissipation

V_{CE (sat)}: Collector-to-emitter saturation voltage

ton: Turn-on time

toff: Turn-off time

tr: Fall time

IGBT Modules, N • G series

7 in one-package/Built-in brake N series

Device type	Inverter(IGBT)				Brake(IGBT+FWD)			Converter(Diode)				Package	Net mass Grams
	V _{CES}	I _C Cont.	P _C	V _{CE(sat)} Max.	V _{CES}	I _C Cont.	V _{RRM}	V _{RRM}	I _O	V _{FM} Cont.	I _{FSM} Max.		
	Volts	Amps.	Watts	Volts	Volts	Amps.	Volts	Volts	Amps.	Watts	Volts		
7MBI75N-060	600	75	320	2.8	600	50	600	-	-	-	-	P607	450
7MBI100N-060	600	100	400	2.8	600	50	600	-	-	-	-	P607	450
7MBI40N-120	1200	40	320	3.3	1200	15	1200	-	-	-	-	P607	450
7MBI50N-120	1200	50	400	3.3	1200	25	1200	-	-	-	-	P607	450

PIM/Built-in converter and brake N series

Device type	Inverter(IGBT)				Brake(IGBT+FWD)			Converter(Diode)				Package	Net mass Grams
	V _{CES}	I _C Cont.	P _C	V _{CE(sat)} Max.	V _{CES}	I _C Cont.	V _{RRM}	V _{RRM}	I _O	V _{FM} Cont.	I _{FSM} Max.		
	Volts	Amps.	Watts	Volts	Volts	Amps.	Volts	Volts	Amps.	Watts	Volts		
7MBR30NF060	600	30	120	2.8	600	30	600	800	50	1.55	350	M707	260
7MBR50NF060	600	50	200	2.8	600	50	600	800	50	1.55	350	M707	260
7MBR10NF120	1200	10	60	3.3	1200	5	1200	1600	25	1.4	320	M707	260
7MBR15NF120	1200	15	120	3.3	1200	10	1200	1600	25	1.4	320	M707	260
7MBR25NF120	1200	25	200	3.3	1200	15	1200	1600	25	1.4	320	M707	260

PIM/Built-in converter and brake N • G series

Device type	Inverter(IGBT)				Brake(IGBT+FWD)			Converter(Diode)				Package	Net mass Grams
	V _{CES}	I _C Cont.	P _C	V _{CE(sat)} Max.	V _{CES}	I _C Cont.	V _{RRM}	V _{RRM}	I _O	V _{FM} Cont.	I _{FSM} Max.		
	Volts	Amps.	Watts	Volts	Volts	Amps.	Volts	Volts	Amps.	Watts	Volts		
7MBR30NE060	600	30	120	2.8	600	30	600	800	50	1.55	350	M708	260
7MBR50NE060	600	50	200	2.8	600	50	600	800	50	1.55	350	M708	260
7MBR75GE060	600	75	300	2.8	600	50	600	800	50	1.55	350	M708	260
7MBR10NE120	1200	10	60	3.3	1200	5	1200	1600	25	1.4	320	M708	260
7MBR15NE120	1200	15	120	3.3	1200	10	1200	1600	25	1.4	320	M708	260
7MBR25NE120	1200	25	200	3.3	1200	15	1200	1600	25	1.4	320	M708	260

IGBT modules for DC chopper

Device type	V _{CES}	V _{GES}	I _C	P _C	V _{CE(sat)} (V _{GE} =15V)		Switching time Max.			Package	Net mass Grams
	Volts	Volts	Cont. Amps.	Watts	Max.	I _C	ton	toff	tf		
					Volts	Amps.	μsec.	μsec.	μsec.		
1MBI150NH-060	600	±20	150	300	2.8	150	1.2	1.0	0.35	M232	180
1MBI150NK-060	600	±20	150	300	2.8	150	1.2	1.0	0.35	M232	180
1MBI200NH-060	600	±20	200	780	2.8	200	1.2	1.0	0.35	M233	240
1MBI200NK-060	600	±20	200	780	2.8	200	1.2	1.0	0.35	M233	240

6-in one-package (Compact single in-line package)

Device type	V _{CES}	V _{GES}	I _C	P _C	V _{CE(sat)} (V _{GE} =15V)		Switching time Max.			Package	Net mass Grams
	Volts	Volts	Cont. Amps.	Watts	Max.	I _C	t _{on}	t _{off}	t _f		
					Volts	Amps.	μsec.	μsec.	μsec.		
6MBI10GS-060	600	±20	10	45	2.8	10	1.2	1.0	0.35	M619	60
6MBI15GS-060	600	±20	15	60	2.8	15	1.2	1.0	0.35	M619	60
6MBI20GS-060	600	±20	20	70	2.8	20	1.2	1.0	0.35	M619	60