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Reference book IGBT Modules

Technologies, Driver and Application

IGBT Modules – Technologies, Driver and Applications

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Jost Wendt (Translator)

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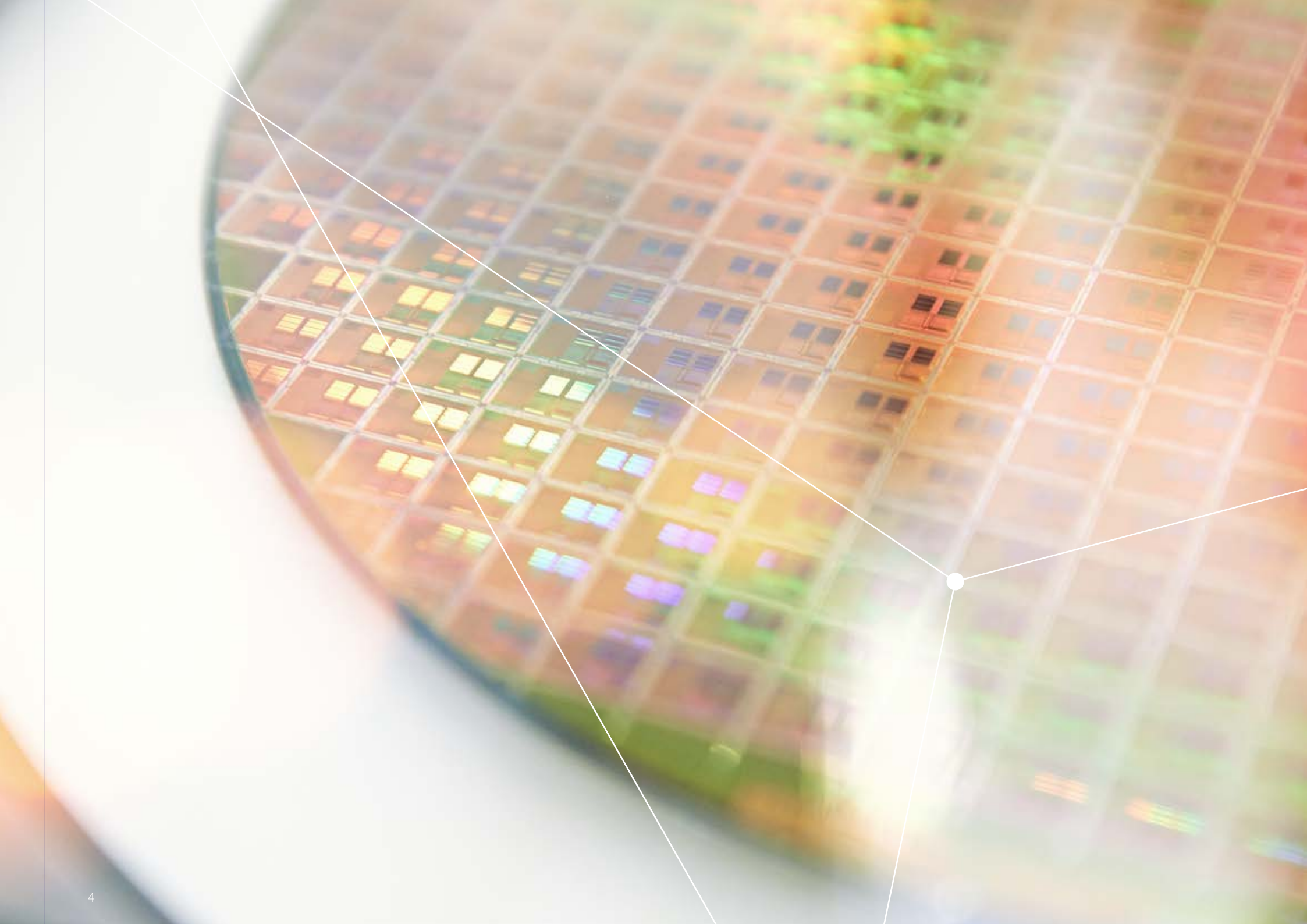
For further information please visit our website:

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Bare dies

IGBTs and diodes

The TRENCHSTOP™ IGBT combines the unique Trench- and Fieldstop-Technology and is a benchmark in the Industry. The portfolio includes the voltage range from 600 V up to 1700 V with several different versions, and is optimized for a wide range of applications like Drives, Renewable Energy, Welding and Power Supplies.

Emitter Controlled-Diode is Infineon unique Fast Recovery Diode technology. The Ultrathin wafer and field-stop technology makes the Emitter Controlled-Diode from Infineon ideally suited for consumer & industry applications as it lower the turn-on losses of the IGBT with soft recovery. The Emitter Controlled-Diode is optimized for the Infineon IGBT technology.

IGBT bare dies

Product	Product Status	V_{CE} max [V]	I_C max [A]	Technology	$V_{CE(sat)}$ max [V]	$V_{GE(th)}$ min [V]	$V_{GE(th)}$ max [V]	Operating Temperature min [°C]	Operating Temperature max [°C]
600 V									
SIGC100T60R3E	active and preferred	600	200	IGBT3	1.85	5	6.5	-40	175
SIGC156T60SNR2C	active and preferred	600	200	IGBT2 Fast	2.5	3	5	-55	150
SIGC156T60NR2C	active and preferred	600	200	IGBT2	2.5	4.5	6.5	-55	150
SIGC76T60R3E	active and preferred	600	150	IGBT3	1.85	5	6.5	-40	175
SIGC121T60NR2C	active and preferred	600	150	IGBT2	2.5	4.5	6.5	-55	150
SIGC54T60R3E	active and preferred	600	100	IGBT3	1.85	5	6.5	-40	175
SIGC81T60SNC	active and preferred	600	100	IGBT2 Fast	2.5	3	5	-55	150
SIGC81T60NC	active and preferred	600	100	IGBT2	2.5	4.5	6.5	-55	150
SIGC39T60E	active and preferred	600	75	IGBT3	1.85	5	6.5	-40	175
SIGC40T60R3E	active and preferred	600	75	IGBT3	1.85	5	6.5	-40	175
SIGC61T60NC	active and preferred	600	75	IGBT2	2.5	4.5	6.5	-55	150
SIGC28T60E	active and preferred	600	50	IGBT3	1.85	5	6.5	-40	175
SIGC42T60UN	active and preferred	600	50	IGBT2 HighSpeed	3.15	3	5	-55	150
SIGC42T60SNC	active and preferred	600	50	IGBT2 Fast	2.5	3	5	-55	150
SIGC42T60NC	active and preferred	600	50	IGBT2	2.5	4.5	6.5	-55	150
SIGC19T60SE	active and preferred	600	40	IGBT3 Fast	1.97	4.2	5.6	-40	150
SIGC15T60SE	active and preferred	600	30	IGBT3 Fast	2.05	4.1	5.7	-40	150
SIGC15T60E	active and preferred	600	30	IGBT3	1.9	5	6.5	-40	175
SIGC25T60UN	active and preferred	600	30	IGBT2 HighSpeed	3.15	3	5	-55	150
SIGC25T60SNC	active and preferred	600	30	IGBT2 Fast	2.5	3	5	-55	150
SIGC25T60NC	active and preferred	600	30	IGBT2	2.5	4.5	6.5	-55	150
SIGC10T60SE	active and preferred	600	20	IGBT3 Fast	2.05	4.1	5.7	-40	150
SIGC10T60E	active and preferred	600	20	IGBT3	1.9	5	6.5	-40	175
SIGC18T60UN	active and preferred	600	20	IGBT2 HighSpeed	3.15	3	5	-55	150
SIGC18T60SNC	active and preferred	600	20	IGBT2 Fast	2.5	3	5	-55	150
SIGC18T60NC	active and preferred	600	20	IGBT2	2.5	4.5	6.5	-55	150
IGC10R60DE	active and preferred	600	15	IGBT3 RC Drives	5.7	4.3	5.7	-40	175
SIGC08T60SE	active and preferred	600	15	IGBT3 Fast	2.05	4.1	5.7	-40	150

Product	Product Status	V_{CE} max [V]	I_C max [A]	Technology	$V_{CE(sat)}$ max [V]	$V_{GE(th)}$ min [V]	$V_{GE(th)}$ max [V]	Operating Temperature min [°C]	Operating Temperature max [°C]
600 V									
SIGC08T60E	active and preferred	600	15	IGBT3	1.9	5	6.5	-40	175
SIGC15T60UN	active and preferred	600	15	IGBT2 HighSpeed	3.15	3	5	-55	150
SIGC14T60SNC	active and preferred	600	15	IGBT2 Fast	2.5	3	5	-55	150
SIGC14T60NC	active and preferred	600	15	IGBT2	2.5	4.5	6.5	-55	150
IGC07R60DE	active and preferred	600	10	IGBT3 RC Drives	2.1	4.3	5.7	-40	175
SIGC06T60GE	active and preferred	600	10	IGBT3	1.9	5	6.5	-40	175
SIGC06T60E	active and preferred	600	10	IGBT3	1.9	5	6.5	-40	175
SIGC12T60SNC	active and preferred	600	10	IGBT2 Fast	2.5	3	5	-55	150
SIGC11T60SNC	active and preferred	600	10	IGBT2 Fast	2.4	3	5	-55	150
SIGC12T60NC	active and preferred	600	10	IGBT2	2.5	4.5	6.5	-55	150
SIGC11T60NC	active and preferred	600	10	IGBT2	2.5	4.5	6.5	-55	150
IGC06R60DE	active and preferred	600	8	IGBT3 RC Drives	2.1	4.3	5.7	-40	175
IGC05R60DE	active and preferred	600	6	IGBT3 RC Drives	2.1	4.3	5.7	-40	175
SIGC04T60GSE	active and preferred	600	6	IGBT3 Fast	2.05	4.1	5.7	-40	150
SIGC04T60GE	active and preferred	600	6	IGBT3	1.9	5	6.5	-40	175
SIGC04T60E	active and preferred	600	6	IGBT3	1.9	5	6.5	-40	175
SIGC07T60UN	active and preferred	600	6	IGBT2 HighSpeed	3.15	3	5	-55	150
SIGC07T60SNC	active and preferred	600	6	IGBT2 Fast	2.5	3	5	-55	150
SIGC07T60NC	active and preferred	600	6	IGBT2	2.5	4.5	6.5	-55	150
IGC04R60DE	active and preferred	600	4	IGBT3 RC Drives	2.1	4.3	5.7	-40	175
SIGC03T60SE	active and preferred	600	4	IGBT3 Fast	2.05	4.1	5.7	-40	150
SIGC03T60E	active and preferred	600	4	IGBT3	1.9	5	6.5	-40	175
SIGC05T60SNC	active and preferred	600	4	IGBT2 Fast	2	3	5	-55	150
IGC03R60DE	active and preferred	600	2.5	IGBT3 RC Drives	2.1	4.3	5.7	-40	175
SIGC03T60SNC	active and preferred	600	2	IGBT2 Fast	2.5	3	5	-55	150

IGBT bare dies

Product	Product Status	V_{CE} max [V]	I_C max [A]	Technology	$V_{CE(sat)}$ max [V]	$V_{GE(th)}$ min [V]	$V_{GE(th)}$ max [V]	Operating Temperature min [°C]	Operating Temperature max [°C]
650 V									
SIGC100T65R3E	active and preferred	650	200	IGBT3	1.2	5.1	6.4	-40	175
IGC100T65T8RM	active and preferred	650	200	IGBT3 Medium Power	1.23	5.1	6.4	-40	175
SIGC78T65R3E	active and preferred	650	150	IGBT3	1.54	5.1	6.4	-40	175
SIGC76T65R3E	active and preferred	650	150	IGBT3	1.2	5.1	6.4	-40	175
IGC76T65T8RM	active and preferred	650	150	IGBT3 Medium Power	1.23	5.1	6.4	-40	175
IGC54T65R3QE	active and preferred	650	100	IGBT HighSpeed 3	2.22	4.2	5.6	-40	175
SIGC54T65R3E	active and preferred	650	100	IGBT3	1.77	5.1	6.4	-40	175
IGC54T65T8RM	active and preferred	650	100	IGBT3 Medium Power	1.82	5.1	6.4	-40	175
IGC39T65QE	active and preferred	650	75	IGBT HighSpeed 3	2.22	4.2	5.6	-40	175
SIGC39T65E	active and preferred	650	75	IGBT3	1.77	5.1	6.4	-40	175
SIGC40T65R3E	active and preferred	650	75	IGBT3	1.77	5.1	6.4	-40	175
IGC39T65T8M	active and preferred	650	75	IGBT3 Medium Power	1.82	5.1	6.4	-40	175
IGC31T65QE	active and preferred	650	60	IGBT HighSpeed 3	2.22	4.2	5.6	-40	175
IGC28T65QE	active and preferred	650	50	IGBT HighSpeed 3	2.22	4.2	5.6	-40	175
SIGC28T65E	active and preferred	650	50	IGBT3	1.77	5.1	6.4	-40	175
IGC28T65T8M	active and preferred	650	50	IGBT3 Medium Power	1.82	5.1	6.4	-40	175
IGC19T65QE	active and preferred	650	40	IGBT HighSpeed 3	2.32	4.2	5.6	-40	175
IGC15T65QE	active and preferred	650	30	IGBT HighSpeed 3	2.32	4.2	5.6	-40	175
SIGC15T65E	active and preferred	650	30	IGBT3	1.87	5.1	6.4	-40	175
IGC10T65QE	active and preferred	650	20	IGBT HighSpeed 3	2.32	4.2	5.6	-40	175
SIGC10T65E	active and preferred	650	20	IGBT3	1.87	5.1	6.4	-40	175
SIGC08T65E	active and preferred	650	15	IGBT3	1.87	5.1	6.4	-40	175
SIGC06T65E	active and preferred	650	10	IGBT3	1.87	5.1	6.5	-40	175
SIGC06T65GE	active and preferred	650	10	IGBT3	1.87	5.1	6.4	-40	175
SIGC04T65E	active and preferred	650	6	IGBT3	1.87	5.1	6.5	-40	175

Product	Product Status	V_{CE} max [V]	I_C max [A]	Technology	$V_{CE(sat)}$ max [V]	$V_{GE(th)}$ min [V]	$V_{GE(th)}$ max [V]	Operating Temperature min [°C]	Operating Temperature max [°C]
1200 V									
IGC193T120T8RM	active and preferred	1200	200	IGBT4 Medium Power	1.3	5.3	6.3	-40	175
IGC189T120T8RL	active and preferred	1200	200	IGBT4 Low Power	2.05	5.3	6.3	-40	175
IGC142T120T8RH	active and preferred	1200	150	IGBT4 High Power	1.26	5.1	6.4	-40	175
IGC142T120T8RM	active and preferred	1200	150	IGBT4 Medium Power	1.74	5.3	6.3	-40	175
IGC142T120T8RL	active and preferred	1200	150	IGBT4 Low Power	1.74	5.3	6.3	-40	175
SIGC158T120R3E	active and preferred	1200	150	IGBT3	2.1	5	6.5	-40	150
SIGC158T120R3LE	active and preferred	1200	150	IGBT3	2.1	5	6.5	-40	150
IGC99T120T8RH	active and preferred	1200	100	IGBT4 High Power	1.92	5.1	6.4	-40	175
IGC99T120T8RM	active and preferred	1200	100	IGBT4 Medium Power	1.97	5.1	6.4	-40	175
IGC99T120T8RL	active and preferred	1200	100	IGBT4 Low Power	1.97	5.1	6.4	-40	175
IGC99T120T8RQ	active and preferred	1200	100	IGBT HighSpeed 3	2.42	5.1	6.4	-40	175
SIGC109T120R3E	active and preferred	1200	100	IGBT3	2.1	5	6.5	-40	150
SIGC109T120R3LE	active and preferred	1200	100	IGBT3	2.1	5	6.5	-40	150
IGC70T120T8RM	active and preferred	1200	75	IGBT4 Medium Power	2.07	5.3	6.3	-40	175
IGC70T120T8RL	active and preferred	1200	75	IGBT4 Low Power	2.07	5.3	6.3	-40	175
IGC70T120T8RQ	active and preferred	1200	75	IGBT HighSpeed 3	2.42	5.3	6.3	-40	175
SIGC84T120R3LE	active and preferred	1200	75	IGBT3	2.1	5	6.5	-40	150
SIGC84T120R3E	active and preferred	1200	75	IGBT3	2.1	5	6.5	-40	150
IGC50T120T8RL	active and preferred	1200	50	IGBT4 Low Power	2.07	5.3	6.3	-40	175
IGC50T120T8RQ	active and preferred	1200	50	IGBT HighSpeed 3	2.42	5.3	6.3	-40	175
SIGC57T120R3LE	active and preferred	1200	50	IGBT3	2.1	5	6.5	-40	150
SIGC57T120R3E	active and preferred	1200	50	IGBT3	2.1	5	6.5	-40	150
IGC41T120T8Q	active and preferred	1200	40	IGBT HighSpeed 3	2.42	5.3	6.3	-40	175
SIGC41T120R3LE	active and preferred	1200	40	IGBT3	2.1	5	6.5	-40	150
IGC36T120T8L	active and preferred	1200	35	IGBT4 Low Power	2.07	5.3	6.3	-40	175
SIGC41T120R3E	active and preferred	1200	35	IGBT3	2.1	5	6.5	-40	150
IGC27T120T8L	active and preferred	1200	25	IGBT4 Low Power	2.07	5.3	6.3	-40	175
IGC27T120T8Q	active and preferred	1200	25	IGBT HighSpeed 3	2.42	5.3	6.3	-40	175

IGBT bare dies

Product	Product Status	V_{CE} max [V]	I_C max [A]	Technology	$V_{CE(sat)}$ max [V]	$V_{GE(th)}$ min [V]	$V_{GE(th)}$ max [V]	Operating Temperature min [°C]	Operating Temperature max [°C]
1200 V									
SIGC32T120R3E	active and preferred	1200	25	IGBT3	2.1	5	6.5	-40	150
SIGC32T120R3LE	active and preferred	1200	25	IGBT3	2.1	5	6.5	-40	150
IGC18T120T8L	active and preferred	1200	15	IGBT4 Low Power	2.07	5.3	6.3	-40	175
IGC18T120T8Q	active and preferred	1200	15	IGBT HighSpeed 3	2.42	5.3	6.3	-40	175
SIGC20T120E	active and preferred	1200	15	IGBT3	2.1	5	6.5	-40	150
SIGC20T120LE	active and preferred	1200	15	IGBT3	2.1	5	6.5	-40	150
IGC13T120T8L	active and preferred	1200	10	IGBT4 Low Power	2.07	5.3	6.3	-40	175
IGC11T120T8L	active and preferred	1200	8	IGBT4 Low Power	2.07	5.3	6.3	-40	175
SIGC12T120E	active and preferred	1200	8	IGBT3	2.1	5	6.5	-40	150
SIGC12T120LE	active and preferred	1200	8	IGBT3	2.1	5	6.5	-40	150
IGC07T120T8L	active and preferred	1200	4	IGBT4 Low Power	2.02	5.3	6.3	-40	175
1700 V									
IGC168T170S8RH	active and preferred	1700	150	IGBT3 High Power	2.15	5.2	6.4	-40	150
IGC168T170S8RM	active and preferred	1700	150	IGBT3 Medium Power	2.2	5.2	6.4	-40	150
SIGC186T170R3E	active and preferred	1700	150	IGBT3	2.4	5.2	6.4	-55	150
SIGC158T170R3E	active and preferred	1700	125	IGBT3	2.4	5.2	6.4	-55	150
IGC136T170S8RH2	active and preferred	1700	117.5	IGBT3 High Power	1.3	5.3	6.3	-40	150
IGC114T170S8RH	active and preferred	1700	100	IGBT3 High Power	2.15	5.2	6.4	-40	150
IGC114T170S8RM	active and preferred	1700	100	IGBT3 Medium Power	2.2	5.2	6.4	-40	150
SIGC128T170R3E	active and preferred	1700	100	IGBT3	2.4	5.2	6.4	-55	150
IGC89T170S8RM	active and preferred	1700	75	IGBT3 Medium Power	2.2	5.2	6.4	-40	150
SIGC101T170R3E	active and preferred	1700	75	IGBT3	2.4	5.2	6.4	-55	150
SIGC68T170R3E	active and preferred	1700	50	IGBT3	2.4	5.2	6.4	-55	150
SIGC42T170R3GE	active and preferred	1700	29	IGBT3	2.4	5.2	6.4	-55	150

Diode bare dies

Product	Product Status	V_{DS} max [V]	I_F max [A]	$I_{(FSM)}$ max [A]	V_F [V]	I_R max [μ A]
Emitter Controlled Diode High Efficiency						
SIDC105D120H8	active and preferred	1200	200	400	1.29	2.6
SIDC14D120H8	active and preferred	1200	25	50	1.6	27
SIDC07D60AF6	active and preferred	600	22.5	45	1.5	250
Emitter Controlled Diode 4 High Power						
IDC73D120T8H	active and preferred	1200	-	-	1.35	26
IDC73D120T6H	active and preferred	1200	150	300	1.9	26
IDC73D120T6H	active and preferred	1200	150	300	1.9	26
IDC51D120T8H	active and preferred	1200	-	-	1.9	18
IDC51D120T6H	active and preferred	1200	100	200	1.9	18
IDC40D120T8H	active and preferred	1200	-	-	1.9	14
IDC40D120T6H	active and preferred	1200	75	150	1.9	14
Emitter Controlled Diode 4 Medium Power						
IDC73D120T8M	active and preferred	1200	-	-	1.25	26
IDC51D120T8M	active and preferred	1200	-	-	1.7	18
IDC51D120T6M	active and preferred	1200	100	200	1.7	18
IDC40D120T8M	active and preferred	1200	-	-	1.7	14
IDC40D120T6M	active and preferred	1200	75	-	1.7	14
IDC28D120T8M	active and preferred	1200	-	-	1.7	10
IDC28D120T6M	active and preferred	1200	50	100	1.7	10
IDC21D120T8M	active and preferred	1200	-	-	1.7	7.7
IDC21D120T6M	active and preferred	1200	35	70	1.7	7.7
IDC15D120T8M	active and preferred	1200	-	-	1.7	5.2
IDC15D120T6M	active and preferred	1200	25	50	1.7	5.2
IDC10D120T8M	active and preferred	1200	-	-	1.7	3.5
IDC08D120T8M	active and preferred	1200	-	-	1.7	2.7
IDC08D120T6M	active and preferred	1200	10	30	1.7	2.7
IDC10D120T6M	active and preferred	1200	15	-	1.7	3.5

Diode bare dies

Product	Product Status	V_{DS} max [V]	I_F max [A]	$I_{(FSM)}$ max [A]	V_F [V]	I_R max [μA]
Emitter Controlled Diode 3						
SIDC161D170H	active and preferred	1700	300	600	1.8	250
SIDC112D170H	active and preferred	1700	205	410	1.9	20
SIDC110D170H	active and preferred	1700	200	400	1.8	250
SIDC85D170H	active and preferred	1700	150	300	1.8	250
SIDC78D170H	active and preferred	1700	150	300	1.8	250
SIDC59D170H	active and preferred	1700	100	200	1.8	250
SIDC46D170H	active and preferred	1700	75	150	1.8	250
SIDC32D170H	active and preferred	1700	50	100	1.8	250
SIDC50D65C8	active and preferred	650	200		1.17	2.4
SIDC38D65C8	active and preferred	650	150	300	1.17	1.8
SIDC26D65C8	active and preferred	650	100	200	1.17	1.2
SIDC20D65C8	active and preferred	650	75	150	1.55	0.9
SIDC14D65C8	active and preferred	650	50	100	1.55	0.6
SIDC08D65C8	active and preferred	650	30	60	1.55	0.36
SIDC06D65C8	active and preferred	650	20	40	1.55	0.24
SIDC05D65C8	active and preferred	650	15	30	1.55	0.18
SIDC03D65C8	active and preferred	650	10	20	1.55	0.14
SIDC02D65C8	active and preferred	650	6	12	1.55	0.1
SIDC50D60C8	active and preferred	600	200	400	1.6	27
SIDC38D60C8	active and preferred	600	150	300	1.6	27
SIDC26D60C8	active and preferred	600	100	200	1.6	27
SIDC20D60C8	active and preferred	600	75	150	1.6	27
SIDC14D60C8	active and preferred	600	50	100	1.6	27
SIDC08D60C8	active and preferred	600	30	60	1.6	27
SIDC06D60C8	active and preferred	600	20	40	1.6	27
SIDC05D60C8	active and preferred	600	15	30	1.6	27
SIDC03D60C8	active and preferred	600	10	20	1.6	27
SIDC02D60C8	active and preferred	600	6	12	1.6	27

Product	Product Status	V_{DS} max [V]	I_F max [A]	$I_{(FSM)}$ max [A]	V_F [V]	I_R max [μ A]
Emitter Controlled Diode Fast						
SIDC130D170H	active and preferred	1700	235	470	1.35	11
SIDC81D120H8	active and preferred	1200	150	300	1.6	27
SIDC81D120F6	active and preferred	1200	100	200	2.1	250
SIDC53D120H8	active and preferred	1200	100	200	1.6	27
SIDC56D120F6	active and preferred	1200	75	150	2.1	250
SIDC42D120H8	active and preferred	1200	75	150	1.6	27
SIDC42D120F6	active and preferred	1200	50	100	2.1	250
SIDC30D120H8	active and preferred	1200	50	100	1.6	27
SIDC30D120F6	active and preferred	1200	35	70	2.1	250
SIDC23D120H8	active and preferred	1200	35	70	1.6	27
SIDC23D120F6	active and preferred	1200	25	50	2.1	250
SIDC14D120F6	active and preferred	1200	15	30	2.1	250
SIDC10D120H8	active and preferred	1200	15	30	1.6	27
SIDC08D120H8	active and preferred	1200	10	20	1.6	27
SIDC06D120H8	active and preferred	1200	7.5	15	1.6	27
SIDC08D120F6	active and preferred	1200	7	14	2.1	250
SIDC03D120H8	active and preferred	1200	3	6	1.6	27
SIDC06D120F6	active and preferred	1200	5	10	2.1	250
SIDC03D120F6	active and preferred	1200	2	4	2.1	250
Emitter Controlled Diode						
SIDC73D170E6	active and preferred	1700	100	200	2.15	375
SIDC56D170E6	active and preferred	1700	75	150	2.15	375
SIDC42D170E6	active and preferred	1700	50	100	2.15	375





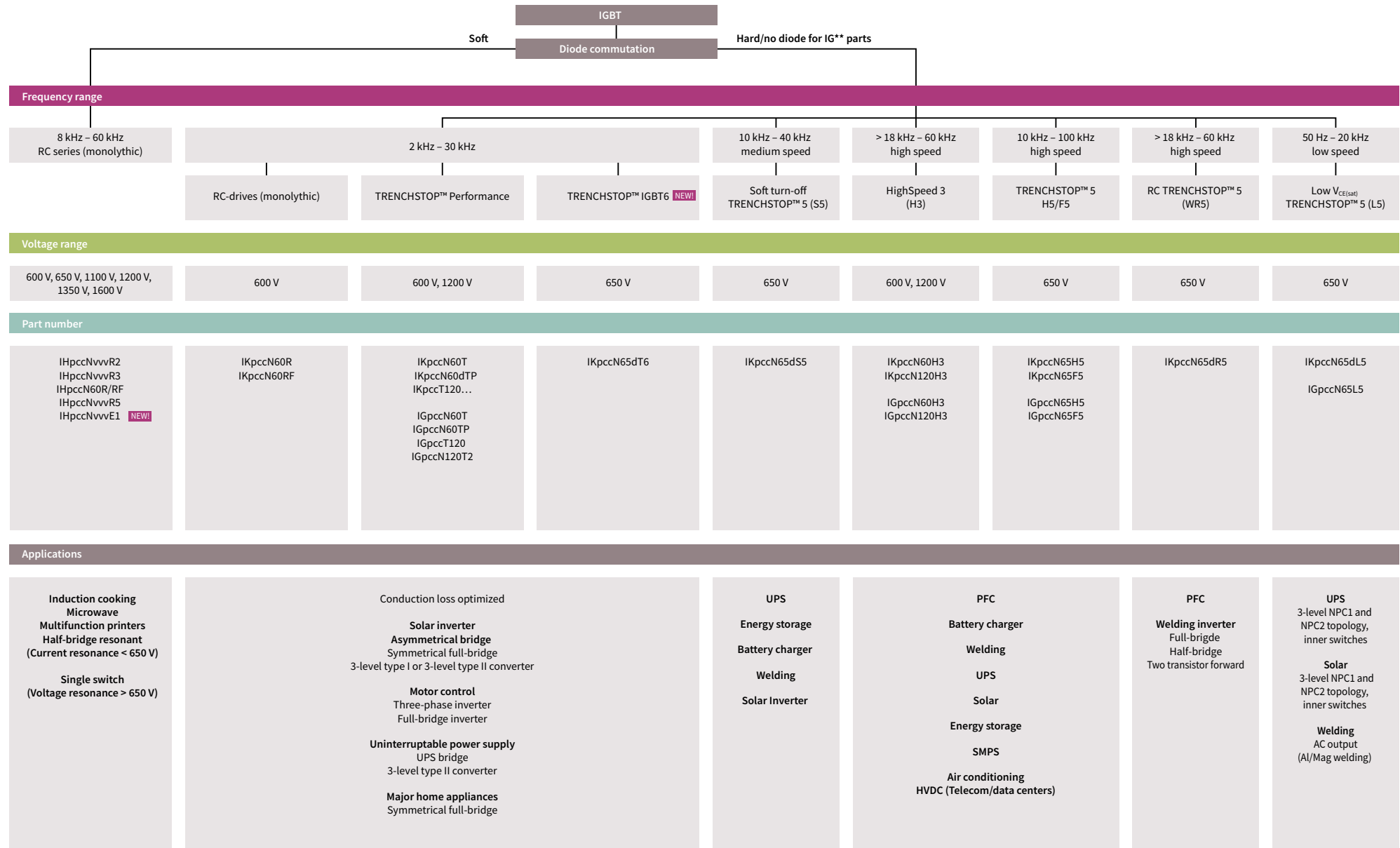
Discretes

IGBTs and diodes

Market leadership through groundbreaking innovation and application focus

Striving for the highest standards in performance and quality, Infineon offers a comprehensive application specific discrete IGBT portfolio that is second to none.

IGBT Selection Tree



Discrete IGBT with anti-parallel diode

Product	Product Status	Switching Frequency min [kHz]	Switching Frequency max [kHz]	Package	Voltage Class max [V]	I _{cpuls} max [A]	P _{tot} max [W]	V _{CE(sat)} [V]	E _{on} [mJ]	t _{d(on)} [ns]	t _r [ns]	t _{d(off)} [ns]	t _f [ns]	Q _{Gate} [nC]	I _F max [A]	I _{Fpuls} max [A]	V _F [V]	Q _{rr} [nC]	I _{rrm} [A]	I _C @ 100° max [A]	I _C @ 25° max [A]	E _{off} Hard Switching [mJ]	E _{off} Soft Switching [mJ]
IGBT TRENCHSTOP™ Advanced Isolation																							
IKFW50N60DH3	active and preferred	18	60	PG-TO247-3-AI	600	160	145	1.85	1.22	25	35	212	22	210	40	160	1.45	0.51	11.7	-	53	0.62	-
IKFW60N60DH3E	active and preferred	18	60	PG-TO247-3-AI	600	150	141	2.2	1.57	23	39	170	19	210	40	150	2.2	0.55	12	-	53	0.72	-
IKFW50N60DH3E	active and preferred	18	60	PG-TO247-3-AI	600	120	130	2.2	1.28	21	39	174	18	160	40	120	1.5	0.51	11.7	-	40	0.56	-
IKFW40N60DH3E	active and preferred	18	60	PG-TO247-3-AI	600	90	111	2.3	0.87	18	34	144	16	107	35	90	1.6	0.4	9.9	-	34	0.36	-
IGBT TRENCHSTOP™ 6																							
IKA15N65ET6	active and preferred	5	30	PG-TO220-3 FP	650	57.5	45	1.5	0.23	30	22	117	42	37	17	57.5	1.5	0.21	5.1	11	17	0.11	-
IKA10N65ET6	active and preferred	5	30	PG-TO220-3 FP	650	42.5	40	1.5	0.2	30	18	106	46	27	14	42.5	1.45	0.21	5.7	9	15	0.07	-
IKA08N65ET6	active and preferred	5	30	PG-TO220-3 FP	650	25	33	1.5	0.11	20	12	59	53	17	14	25	1.28	0.15	5.9	7	11	0.04	-
IGBT TRENCHSTOP™ 5 F5																							
IKW50N65F5	active and preferred	60	120	TO-247	650	150	305	1.6	0.49	21	15	175	18	120	40	150	1.45	550	16.5	56	80	0.16	-
IKB40N65EF5	active and preferred	40	100	PG-TO263-3	650	120	250	1.60	1.12	19	37	154	58	95	46	160	1.45	0.89	14.5	46	74	0.48	-
IKW40N65F5	active and preferred	60	120	TO-247	650	120	255	1.6	0.36	19	13	160	16	95	36	120	1.45	450	12.4	46	74	0.1	-
IKP40N65F5	active and preferred	60	120	TO-220	650	120	255	1.6	0.36	19	13	160	16	95	36	120	1.45	450	12.4	46	74	0.1	-
IKP30N65F5	active and preferred	60	120	TO-220	650	90	188	1.6	0.28	18	4	174	15	70	36	90	1.35	410	14.4	35	55	0.07	-
IKP20N65F5	active and preferred	60	120	TO-220	650	60	125	1.6	0.16	18	3	170	30	48	20	60	1.65	280	10.25	21	42	0.06	-
IKA15N65F5	active and preferred	60	120	TO-220-3 FP	650	45	33.3	1.6	0.13	150	7	150	16	38	12.3	45	1.45	190	8	8.5	14	0.04	-
IKP15N65F5	active and preferred	60	120	TO-220	650	45	105	1.6	0.13	17	7	150	16	38	20	45	1.45	190	8	18	30	0.04	-
IKA08N65F5	active and preferred	60	120	TO-220-3 FP	650	24	31.2	1.6	0.07	10	5	116	20	22	12.3	24	1.45	140	6.6	6.8	10.8	0.02	-
IKP08N65F5	active and preferred	60	120	TO-220	650	24	70	1.6	0.07	116	5	116	20	22	20	24	1.45	140	6.6	11	18	0.02	-
IGBT TRENCHSTOP™ 5 H5																							
IKW75N65EH5	active and preferred	30	100	TO-247	650	300	395	1.65	2.3	28	33	174	41	160	90	300	1.35	1330	20.5	75	90	0.9	-
IKZ75N65EH5	active and preferred	30	100	TO-247-4	650	300	395	1.65	0.68	26	11	347	15	166	95	300	1.35	1020	29	75	90	0.43	-
IKZ75N65NH5	active and preferred	30	100	TO-247-4	650	300	395	1.65	0.88	52	19	412	19	166	95	219	1.6	570	26	75	90	0.52	-
IKW50N65EH5	active and preferred	30	100	TO-247	650	200	275	1.65	1.5	25	29	172	35	120	80	200	1.35	1100	17	50	80	0.5	-
IKZ50N65EH5	active and preferred	30	100	TO-247-4	650	200	273	1.65	0.41	20	7	250	21	109	95	200	1.35	820	24	54	85	0.19	-
IKZ50N65NH5	active and preferred	30	100	TO-247-4	650	200	273	1.65	0.35	22	8	252	23	109	79	200	1.6	490	22	54	85	0.2	-

Discrete IGBT with anti-parallel diode

Product	Product Status	Switching Frequency min [kHz]	Switching Frequency max [kHz]	Package	Voltage Class max [V]	I _{Cpuls} max [A]	P _{tot} max [W]	V _{CE(sat)} [V]	E _{on} [mJ]	t _{d(on)} [ns]	t _r [ns]	t _{d(off)} [ns]	t _f [ns]	Q _{Gate} [nC]	I _F max [A]	I _{Fpuls} max [A]	V _F [V]	Q _{rr} [nC]	I _{rrm} [A]	I _C @ 100° max [A]	I _C @ 25° max [A]	E _{off} Hard Switching [mJ]	E _{off} Soft Switching [mJ]
IGBT TRENCHSTOP™ 5 H5																							
IKW50N65H5	active and preferred	30	100	TO-247	650	150	305	1.65	0.52	21	15	180	18	120	40	150	1.45	570	16.7	56	80	0.18	-
IKB40N65EH5	active and preferred	30	100	PG-TO263-3	650	120	250	1.65	0.39	22	12	165	13	95	40	160	1.45	450	12.5	46	74	0.12	-
IKB30N65EH5	active and preferred	30	100	PG-TO263-3	650	120	188	1.65	0.86	24	28	159	25	70	40	90	1.45	500	12	25	55	0.30	-
IKP40N65H5	active and preferred	30	100	TO-220	650	120	255	1.65	0.39	22	12	165	13	95	36	120	1.45	450	12.5	46	74	0.12	-
IKW40N65H5	active and preferred	30	100	TO-247	650	120	255	1.65	0.39	22	12	165	13	95	36	120	1.45	450	12.5	46	74	0.12	-
IKP30N65H5	active and preferred	30	100	TO-220	650	90	188	1.65	0.28	18	4	180	22	70	36	90	1.35	410	14.3	35	55	0.1	-
IKW30N65H5	active and preferred	30	100	TO-247	650	90	188	1.65	0.28	20	11	190	19	70	30	54	1.55	410	11.5	35	55	0.1	-
IKB20N65EH5	active and preferred	30	100	PG-TO263-3	650	80	125	1.65	0.56	19	21	160	23	48	40	60	1.45	500	8.5	25	38	0.13	-
IKP20N65H5	active and preferred	30	100	TO-220	650	60	125	1.65	0.17	16	3	168	36	48	20	60	1.65	270	10.04	21	42	0.06	-
IKA15N65H5	active and preferred	30	100	TO-220-3 FP	650	45	33.3	1.65	0.12	17	7	160	10	38	12.3	45	1.45	200	8	8.5	14	0.05	-
IKB15N65EH5	active and preferred	30	100	PG-TO263-3	650	45	105	1.65	0.40	16	17	145	27	38	32	45	1.45	500	10	30	18	0.08	-
IKP15N65H5	active and preferred	30	100	TO-220	650	45	105	1.65	0.12	17	7	160	10	38	20	45	1.45	200	8	18	30	0.05	-
IKA08N65H5	active and preferred	30	100	TO-220-3 FP	650	24	31.2	1.65	0.07	11	5	115	15	22	12.3	24	1.45	130	6.8	6.8	10.8	0.03	-
IKP08N65H5	active and preferred	30	100	TO-220	650	24	70	1.65	0.07	11	5	115	15	22	20	24	1.45	130	6.8	11	18	0.03	-
IGBT TRENCHSTOP™ 5 L5																							
IKW75N65EL5	active and preferred	50	20	TO-247	650	300	536	1.1	1.61	40	11	275	50	436	90	300	1.4	1370	29	80	80	3.2	-
IKZ75N65EL5	active and preferred	0.05	20	TO-247-4	650	300	536	1.1	1.57	120	23	275	50	436	90	300	1.4	1300	37	100	100	3.2	-
IKW30N65EL5	active and preferred	0.05	20	TO-247	650	120	227	1.05	0.47	33	11	308	51	168	50	120	1.35	910	21	62	85	1.35	-
IKW30N65NL5	active and preferred	0.05	20	TO-247	650	120	227	1.05	0.56	59	20	283	67	168	50	120	1.65	480	18	62	85	1.35	-
IGBT TRENCHSTOP™ 5 R5																							
IHW50N65R5	active and preferred	20	150	TO-247	650	150	282	1.35	1.5	30	20	210	8	230	37	150	1.7	2750	37	50	80	0.45	-
IHW40N65R5	active and preferred	20	150	TO-247	650	120	230	1.35	1.1	34	25	260	13	193	32	120	1.7	2750	37.2	40	80	0.37	-
IHW30N65R5	active and preferred	20	150	TO-247	650	90	176	1.35	0.85	29	17	220	8	153	23	42	1.7	1900	28	30	60	0.24	-
IHW20N65R5	active and preferred	20	150	TO-247	650	60	150	1.35	0.54	23	16	250	7	97	19	60	1.7	1550	29	20	40	0.16	-

Product	Product Status	Switching Frequency min [kHz]	Switching Frequency max [kHz]	Package	Voltage Class max [V]	I _{Cpuls} max [A]	P _{tot} max [W]	V _{CE(sat)} [V]	E _{on} [mJ]	t _{d(on)} [ns]	t _r [ns]	t _{d(off)} [ns]	t _f [ns]	Q _{Gate} [nC]	I _F max [A]	I _{Fpuls} max [A]	V _F [V]	Q _{rr} [nC]	I _{rrm} [A]	I _C @ 100° max [A]	I _C @ 25° max [A]	E _{off} Hard Switching [mJ]	E _{off} Soft Switching [mJ]
IGBT TRENCHSTOP™ 5 S5																							
IKW75N65ES5	active and preferred	10	30	TO-247	650	300	395	1.42	2.4	40	46	144	41	164	80	300	1.5	1800	31	80	80	0.95	-
IKZ75N65ES5	active and preferred	15	40	TO-247-3	650	300	395	1.42	1.5	46	25	405	22	164	80	300	1.5	1000	36	80	300	1.3	-
IKW50N65ES5	active and preferred	10	30	TO-247	650	200	274	1.35	1.23	20	27	127	34	120	80	5	1.45	1250	25	60.5	80	0.55	-
IKZ50N65ES5	active and preferred	15	40	TO-247-3	650	200	274	1.35	0.77	26	22	294	32	120	50	200	1.45	1400	38.5	60.5	200	0.88	-
IKB40N65ES5	active and preferred	10	40	PG-TO263-3	650	160	188	1.35	0.84	19	18	130	23	95	40	160	1.45	1100	23	46	70	0.40	-
IKW40N65ES5	active and preferred	10	30	TO-247	650	160	230	1.35	0.86	19	18	130	23	95	79	160	1.45	1100	23	50	79	0.4	-
IKB30N65ES5	active and preferred	10	40	PG-TO263-3	650	120	188	1.35	0.56	17	12	124	30	70	40	120	1.45	500	18	39.5	62	0.32	-
IKW30N65ES5	active and preferred	10	30	TO-247	650	120	188	1.35	0.56	17	12	124	30	70	40	120	1.45	830	18	39.5	62	0.32	-
IGBT TRENCHSTOP™ 5 WR5																							
IKW50N65WR5	active and preferred	20	60	TO-247	650	150	282	1.4	1.85	46	33	400	20	230	37	150	1.4	1800	29	50	80	0.7	-
IKW40N65WR5	active and preferred	20	60	TO-247	650	120	230	1.4	1.4	40	29	402	11	193	32	120	1.4	1650	27	40	80	0.42	-
IKW30N65WR5	active and preferred	20	60	TO-247	650	90	185	1.4	0.99	39	12	367	9	155	24	45	1.4	1250	22	30	60	0.33	-
IGBT TRENCHSTOP™ Performance																							
IKW50N60DTP	active and preferred	2	30	TO-247	600	150	319.2	1.6	2.25	21	34	277	55	249	62	150	1.45	2150	18.8	61	80	1.39	-
IKW40N60DTP	active and preferred	2	30	TO-247	600	120	246	1.6	1.63	19	30	273	47	177	58	120	1.45	1520	18.3	48	67	1.05	-
IKW30N60DTP	active and preferred	2	30	TO-247	600	90	200	1.6	0.99	15	23	220	59	130	39	90	1.45	1230	16.6	38	53	0.74	-
IGBT TRENCHSTOP™ 2																							
IKQ75N120CT2	active and preferred	2	20	TO-247-3	1200	300	938	1.75	6.7	37	49	326	46	370	75	300	1.9	5100	29	75	150	4.1	-
IKQ50N120CT2	active and preferred	2	20	TO-247-3	1200	300	652	1.75	3.8	34	46	312	50	235	50	200	1.9	3900	22	50	100	3.3	-
IKQ40N120CT2	active and preferred	2	20	TO-247-3	1200	160	500	1.75	3.1	32	43	328	51	190	40	160	1.9	3100	18	40	80	2.9	-
IKW40N120T2	active and preferred	2	20	TO-247	1200	160	480	2.3	4.5	32	28	405	195	192	75	160	1.75	3300	31	40	75	3.8	-
IKW25N120T2	active and preferred	2	20	TO-247	1200	100	349	2.2	2.25	25	24	340	164	120	40	100	1.65	2050	24	25	50	2.05	-
IKW15N120T2	active and preferred	2	20	TO-247	1200	60	235	2.2	1.5	31	30	450	176	93	25	60	1.75	1300	13	15	30	1.3	-
IKW15T120	active and preferred	2	20	TO-247	1200	45	110	2.2	2	50	35	600	120	85	30	45	1.7	1900	17	15	30	2.1	-

Discrete IGBT with anti-parallel diode

Product	Product Status	Switching Frequency min [kHz]	Switching Frequency max [kHz]	Package	Voltage Class max [V]	I _{Cpuls} max [A]	P _{tot} max [W]	V _{CE(sat)} [V]	E _{on} [mJ]	t _{d(on)} [ns]	t _r [ns]	t _{d(off)} [ns]	t _f [ns]	Q _{Gate} [nC]	I _F max [A]	I _{Fpuls} max [A]	V _F [V]	Q _{rr} [nC]	I _{rrm} [A]	I _C @ 100° max [A]	I _C @ 25° max [A]	E _{off} Hard Switching [mJ]	E _{off} Soft Switching [mJ]
IGBT TRENCHSTOP™																							
IKW40T120	active and preferred	2	20	TO-247	1200	105	270	2.3	5	52	40	580	120	203	80	105	1.75	3800	2.8	40	75	5.4	-
IKW25T120	active and preferred	2	20	TO-247	1200	75	190	2.2	3	50	32	660	130	155	50	105	1.75	2300	21	25	50	4	-
IKW08T120	active and preferred	2	20	TO-247	1200	24	70	2.2	1.08	40	26	570	140	53	16	24	1.7	1000	13	8	16	1.2	-
IKQ120N60T	active and preferred	2	20	TO-247PLUS-3	600	480	833	1.5	6.2	50	75	565	68	703	160	480	1.65	3400	26.5	120	160	5.9	-
IKQ100N60T	active and preferred	2	20	TO-247PLUS-3	600	400	714	1.5	3.1	30	38	290	31	610	160	400	1.65	2800	23	100	160	2.5	-
IKW75N60T	active and preferred	2	20	TO-247	600	225	428	1.5	2.9	33	36	330	35	470	80	225	1.65	2400	38.5	75	80	2.9	-
IKW50N60T	active and preferred	2	20	TO-247	600	150	333	1.5	1.2	26	29	299	29	310	100	150	1.65	1.8	27.7	50	80	1.4	-
IHW30N60T	active	2	20	TO-247	600	90	187	1.5		23	21	254	46	167	13	30	1.1			30	60	0.8	-
IKW30N60T	active and preferred	2	20	TO-247	600	90	187	1.5	1	23	21	254	46	167	60	90	1.65	920	16.3	39	45	1.1	-
IKB20N60T	active and preferred	2	20	D2PAK (TO-263)	600	60	166	1.5	0.31	18	14	199	42	120	30	45	1.65	310	10.4	15	30	0.46	-
IKP20N60T	active and preferred	2	20	TO-220	600	60	166	1.5	0.31	18	14	199	42	120	41	60	1.65	310	13.3	28	41	0.46	-
IKW20N60T	active and preferred	2	20	TO-247	600	60	166	1.5	0.31	18	14	199	42	120	40	60	1.65	310	13.3	28	41	0.46	-
IKA15N60T	active and preferred	2	20	TO-220	600	45	35.7	1.5	0.22	17	11	188	50	87	15.5	45	1.65	240	10.4	8.9	14.7	0.35	-
IKB15N60T	active and preferred	2	20	D2PAK (TO-263)	600	45	130	1.5	0.22	17	11	188	50	87	30	45	1.65	240	10.4	23	26	0.35	-
IKP15N60T	active and preferred	2	20	TO-220	600	45	130	1.5	0.22	17	11	188	50	87	26	45	1.65	240	10.4	23	26	0.35	-
IKA10N60T	active and preferred	2	20	TO-220	600	30	30	1.5	0.16	12	8	215	35	67	11.9	30	1.6	380	13	7.2	11.7	0.27	-
IKB10N60T	active and preferred	2	20	D2PAK (TO-263)	600	30	110	1.5	0.16	12	8	215	38	62	20	30	1.6	380	10	18	24	0.27	-
IKP10N60T	active and preferred	2	20	TO-220	600	30	110	1.5	0.16	12	8	215	38	67	24	30	1.6	380	10	18	24	0.27	-
IKA06N60T	active and preferred	2	20	TO-220	600	18	28	1.5	0.09	9	6	130	58	42	10.2	18	0.1	500	5.3	6.2	10	0.11	-
IKB06N60T	active and preferred	2	20	D2PAK (TO-263)	600	18	88	1.5	0.09	9	6	130	58	42	12	18	1.6	190	5.3	6	12	0.11	-
IKP06N60T	active and preferred	2	20	TO-220	600	18	88	1.5	0.09	9	6	130	58	42	12	18	1.6	190	5.3	6	12	0.11	-
IKP04N60T	active and preferred	2	20	TO-220	600	12	42	1.5	0.06	14	7	164	43	27	8 mA	12	1.65	79	5.3	4	8	0.08	-

Product	Product Status	Switching Frequency min [kHz]	Switching Frequency max [kHz]	Package	Voltage Class max [V]	I _{Cpuls} max [A]	P _{tot} max [W]	V _{CE(sat)} [V]	E _{on} [mJ]	t _{d(on)} [ns]	t _r [ns]	t _{d(off)} [ns]	t _f [ns]	Q _{Gate} [nC]	I _F max [A]	I _{Fpuls} max [A]	V _F [V]	Q _{rr} [nC]	I _{rrm} [A]	I _C @ 100° max [A]	I _C @ 25° max [A]	E _{off} Hard Switching [mJ]	E _{off} Soft Switching [mJ]
IGBT HighSpeed 3																							
IKQ75N120CH3	active and preferred	18	60	TO-247-3	1200	300	938	2	6.4	34	47	282	29	370	75	300	1.9	5100	25	75	150	2.8	-
IKY75N120CH3	active and preferred	18	60	TO-247-3	1200	300	938	2	3.4	38	32	303	32	370	75	300	1.9	4900	41	75	150	2.9	-
IKQ50N120CH3	active and preferred	18	60	TO-247-3	1200	200	652	2	3	34	32	297	30	235	50	200	1.9	3500	34	50	100	1.9	-
IKY50N120CH3	active and preferred	18	60	TO-247-3	1200	200	652	2	2.3	32	28	296	29	235	25	200	1.9	3400	33	50	100	1.9	-
IKQ40N120CH3	active and preferred	18	60	TO-247-3	1200	160	500	2	3.3	30	46	300	46	190	40	160	1.9	3600	19	40	80	1.3	-
IKW40N120H3	active and preferred	20	100	TO-247	1200	160	483	2.05	3.2	30	57	290	16	185	40	160	2.4	1900	12.8	40	80	1.2	-
IKY40N120CH3	active and preferred	18	60	TO-247-3	1200	160	500	2	2.18	30	29	280	26	190	40	160	1.9	3000	22	40	80	1.3	-
IKW25N120H3	active and preferred	20	100	TO-247	1200	100	326	2.05	1.8	26	35	277	17	115	25	100	2.4	1200	10.4	25	50	0.85	-
IKW15N120H3	active and preferred	20	100	TO-247	1200	60	217	2.05	1.1	21	34	260	14	75	15	60	2.4	800	7.7	15	30	0.45	-
IKW75N60H3	active and preferred	20	100	TO-247	600	225	428	1.85	3	31	60	265	27	470	80	150	1.65	1800	19	75	80	1.7	-
IKW50N60H3	active and preferred	20	100	TO-247	600	200	333	1.85	1.45	23	37	235	24	315	60	200	1.65	880	16.9	50	100	0.91	-
IKW60N60H3	active and preferred	20	100	TO-247	600	180	416	1.85	2.1	25	39	291	23	375	80	90	1.65	1200	23	60	80	1.13	-
IKW40N60H3	active and preferred	20	100	TO-247	600	160	306	1.95	1.1	19	33	197	21	223	40	160	1.65	810	13.6	40	80	0.58	-
IKW30N60H3	active and preferred	20	100	TO-247	600	120	187	1.95	0.94	21	33	207	22	165	30	120	1.65	320	12	30	60	0.44	-
IKB20N60H3	active and preferred	20	100	D2PAK (TO-263)	600	80	170	1.95	0.45	16	20	194	11	120	20	80	1.65	390	14.2	20	40	0.24	-
IKP20N60H3	active and preferred	20	100	TO-220	600	80	170	1.95	0.45	16	20	194	11	120	20	80	1.65	390	11	20	40	0.24	-
IKW20N60H3	active and preferred	20	100	TO-247	600	80	170	1.95	0.56	17	11	194	11	120	20	80	1.65	390	11	20	40	0.24	-
IGBT RC Soft Switching																							
IHW30N160R2	active and preferred	8	60	TO-247	1600	90	312	2.35	-	-	-	564	111	94	30	90	2	-	-	30	60	4.37	-
IHW40N135R5	active and preferred	8	60	TO-247	1350V	120	394	1.65	-	-	-	410	90	305	80	120	1.95	-	-	40	80	2.00	0.30
IHW40N135R3	active and preferred	8	60	TO-247	1350	120	429	1.65	-	-	-	343	43	365	80	120	1.65	-	-	40	80	2.5	0.55
IHW30N135R5	active and preferred	8	60	TO-247	1350V	90	330	1.65	-	-	-	340	95	235	60	90	1.85	-	-	30	60	1.50	0.17
IHW30N135R3	active and preferred	8	60	TO-247	1350	90	349	1.65	-	-	-	337	47	263	60	90	1.65	-	-	30	60	1.93	0.41
IHW20N135R5	active and preferred	8	60	TO-247	1350	60	288	1.65	-	-	-	235	50	170	40	60	1.65	-	-	20	40	0.95	-
IHW20N135R3	active	8	60	TO-247	1350	60	310	1.6	-	-	-	335	50	195	40	60	1.6	-	34	20	40	1.3	-
IHW40N120R5	active and preferred	8	60	TO-247	1200V	120	394	1.55	-	-	-	420	20	310	80	120	1.9	-	-	40	80	1.60	0.22
IHW40N120R3	active and preferred	8	60	TO-247	1200	120	429	1.55	-	-	-	336	38	335	80	120	1.6	-	-	40	80	2.02	0.48
IHW30N120R5	active and preferred	8	60	TO-247	1200V	90	330	1.55	-	-	-	330	33	235	60	90	1.8	-	-	30	60	1.10	0.12

Discrete IGBT with anti-parallel diode

Product	Product Status	Switching Frequency min [kHz]	Switching Frequency max [kHz]	Package	Voltage Class max [V]	I _{Cpuls} max [A]	P _{tot} max [W]	V _{CE(sat)} [V]	E _{on} [mJ]	t _{d(on)} [ns]	t _r [ns]	t _{d(off)} [ns]	t _f [ns]	Q _{Gate} [nC]	I _F max [A]	I _{Fpuls} max [A]	V _F [V]	Q _{rr} [nC]	I _{rrm} [A]	I _C @ 100° max [A]	I _C @ 25° max [A]	E _{off} Hard Switching [mJ]	E _{off} Soft Switching [mJ]
IGBT RC Soft Switching																							
IHW30N120R3	active and preferred	8	60	TO-247	1200	90	349	1.55	-	-	-	326	39	263	60	90	1.6	-	-	30	60	1.47	0.34
IHW25N120E1	active and preferred	8	60	TO-247	1200	75	231	1.5	-	-	-	240	1764	147	50	75	2.35	-	-	25	50	-	0.08
IHW25N120R2	active	8	60	TO-247	1200	75	365	1.6	-	-	-	373	55.8	60.7	25	75	1.8	-	-	25	50	2.54	-
IHW20N120R5	active and preferred	8	60	TO-247	1200	60	288	1.55	-	-	-	350	90	170	40	60	1.6	-	-	20	40	0.75	-
IHW20N120R3	active	8	60	TO-247	1200	60	310	1.48	-	0	0	387	25	211	40	40	1.55	0	0	20	40	0.95	-
IHW15N120E1	active and preferred	8	60	TO-247	1200	45	156	1.5	-	-	-	140	1800	90	30	45	2.35	-	-	15	30	-	0.03
IHW15N120R3	active	8	60	TO-247	1200	45	254	1.48	-	-	-	300	46	165	30	45	1.55	-	-	15	30	0.7	-
IHW30N110R3	active and preferred	8	60	TO-247	1100	90	333	1.55	-	-	-	350	16	180	60	90	1.35	-	-	30	60	1.15	-
IHW40N60R	active and preferred	8	60	TO-247	600	120	305	1.65	0	0	0	193	24	223	40	120	1.65	-	-	40	80	0.75	-
IHW40N60RF	active and preferred	20	100	TO-247	600	120	305	1.85	-	-	-	175	14	220	80	120	1.75	-	-	40	80	0.56	-
IGBT RC Drives Fast																							
IKD15N60RF	active and preferred	4	30	DPAK (TO-252)	600	45	250	2.2	0.27	13	15	160	17	90	30	45	2.1	420	13.2	15	30	0.25	-
IKD10N60RF	active and preferred	4	30	DPAK (TO-252)	600	30	150	2.2	0.19	12	15	168	18	64	20	30	2.1	270	9.1	10	20	0.16	-
IKD06N60-RF	active and preferred	4	30	DPAK (TO-252)	600	18	100	2.2	0.09	7	8	106	22	48	12	18	2.1	160	7.4	6	12	0.09	-
IKD04N60RF	active and preferred	4	30	DPAK (TO-252)	600	12	75	2.2	0.06	12	7	116	37	27	8	12	2.1	90	4.6	4	8	0.05	-
IKD03N60RF	active and preferred	4	30	DPAK (TO-252)	600	7.5	53.6	2.2	0.05	9	8	142	123	17.1	5	7.5	2.1	60	6.2	2.5	5	0.04	-
IGBT RC Drives																							
IKD15N60R	active and preferred	2	20	DPAK (TO-252)	600	45	250	1.65	0.37	16	10	183	136	90	30	45	1.7	760	27	15	30	0.53	-
IKD10N60R	active and preferred	2	20	DPAK (TO-252)	600	30	150	1.65	0.21	14	10	192	139	64	20	30	1.7	560	20.3	10	20	0.38	-
IKD06N60R	active and preferred	2	20	DPAK (TO-252)	600	18	100	1.65	0.11	12	7	127	152	48	12	18	1.7	370	12	6	12	0.22	-
IKD04N60R	active and preferred	2	20	DPAK (TO-252)	600	12	75	1.65	0.09	14	8	146	171	27	8	12	1.7	220	11	4	8	0.15	-
IGBT Gen 7																							
IRG7PH42UD	active	8	30	TO-247	1200	90	320	1.7	2.11	25	32	229	63	157	120	-	2	-	-	45	85	1.18	-
IRG7PH35UD	active	8	30	TO-247	1200	60	180	1.9	1.06	30	15	160	80	85	80	-	2.8	-	40	25	50	0.62	-

Product	Product Status	Switching Frequency min [kHz]	Switching Frequency max [kHz]	Package	Voltage Class max [V]	I _{Cpuls} max [A]	P _{tot} max [W]	V _{CE(sat)} [V]	E _{on} [mJ]	t _{d(on)} [ns]	t _r [ns]	t _{d(off)} [ns]	t _f [ns]	Q _{Gate} [nC]	I _F max [A]	I _{Fpuls} max [A]	V _F [V]	Q _{rr} [nC]	I _{rrm} [A]	I _C @ 100° max [A]	I _C @ 25° max [A]	E _{off} Hard Switching [mJ]	E _{off} Soft Switching [mJ]
IGBT Gen 6.2																							
IRGPS46160D	active and preferred	8	30	Super-247 (TO-274)	600	360	750	1.7	5.75	80	70	190	40	240	480	-	2.4	-	36	160	240	3.43	-
IRGP4066D	active and preferred	8	30	TO-247	600	225	454	1.7	2.465	50	70	200	60	150	300	-	2.23	-	27	90	140	2.155	-
IRGP4063D	active and preferred	8	30	TO-247	600	200	330	1.65	0.625	60	40	145	32	95	192	-	1.95	-	40	48	96	1.275	-
IRGP4660D	active and preferred	8	30	TO-247	600	144	330	1.6	0.625	60	40	145	35	95	192	-	1.95	-	40	60	100	1.275	-
IRGP4068D	active and preferred	8	30	TO-247	600	144	330	1.65	0.625	145	35	165	45	95	192	-	0.96	-	-	48	96	1.275	-
IRGP4650D	active and preferred	8	30	TO-247	600	105	268	1.6	0.39	46	33	105	44	69	140	-	2	-	25	50	76	0.632	-
IRGP4069D	active and preferred	8	30	TO-247	600	105	268	1.6	0.39	46	33	105	44	69	140	-	2.2	-	25	50	76	0.632	-
IRGSL4062D	active and preferred	8	30	I2PAK (TO-262)	600	72	250	1.6	0.115	41	22	104	29	50	96	-	1.8	-	37	24	48	0.6	-
IRGP4640D	active and preferred	8	30	TO-247	600	72	250	1.6	0.115	41	22	104	29	50	96	-	1.8	-	37	40	65	0.6	-
IRGB4062D	active and preferred	8	30	TO-220	600	72	250	1.6	0.115	41	22	104	29	50	96	-	1.8	-	37	24	48	0.6	-
IRGS4062D	active and preferred	8	30	D2PAK (TO-263)	600	72	250	1.6	0.115	41	22	104	29	50	96	-	1.8	-	37	24	48	0.6	-
IRGP4062D	active and preferred	8	30	TO-247	600	72	250	1.6	0.115	41	22	104	29	50	69	-	1.8	-	37	24	48	0.6	-
IRGB4061D	active and preferred	8	30	TO-220	600	72	206	1.65	0.095	40	25	105	25	35	72	-	2.3	-	23	18	36	0.35	-
IRGB4630D	active and preferred	8	30	TO-220	600	54	206	1.65	0.095	40	25	105	25	35	72	-	2.3	-	23	30	47	0.35	-
IRGB4056D	active and preferred	8	30	TO-220	600	48	140	1.55	0.075	31	17	83	24	25	48	-	2.1	-	19	12	24	0.225	-
IRGB4620D	active and preferred	8	30	TO-220	600	36	140	1.55	0.075	31	17	83	24	25	48	-	2.1	-	19	20	16	0.225	-
IRGB4060D	active and preferred	8	30	TO-220	600	32	99	1.55	0.07	30	15	95	20	19	32	-	1.8	-	14	8	16	0.145	-
IGBT Fast																							
SKB02N120	active and preferred	10	40	D2PAK (TO-263)	1200	9.6	62	3.7	0.27	26	14	290	85	11	4.5	9	2	100	4.2	2.8	6.2	0.11	-
SKP02N120	active and preferred	10	40	TO-220	1200	9.6	62	3.7	0.27	26	14	290	85	11	4.5	9	2	0.1	4.2	2.8	6.2	0.11	-

Discrete IGBT without anti-parallel diode

Product	Product Status	Switching Frequency min [kHz]	Switching Frequency max [kHz]	Package	Voltage Class max [V]	I _{Cpuls} max [A]	P _{tot} max [W]	V _{CE(sat)} [V]	E _{on} [mJ]	t _{d(on)} [ns]	t _r [ns]	t _{d(off)} [ns]	t _f [ns]	Q _{Gate} [nC]	I _C @ 100° max [A]	I _C @ 25° max [A]	E _{off} Hard Switching [mJ]
IGBT TRENCHSTOP™ 5 F5																	
IGW50N65F5	active and preferred	60	120	TO-247	650	150	305	1.6	0.49	21	15	175	18	120	56	80	0.16
IGP40N65F5	active and preferred	60	120	TO-220	650	120	255	1.6	0.36	19	13	160	16	95	46	74	0.1
IGW40N65F5	active and preferred	60	120	TO-247	650	120	255	1.6	0.36	19	13	160	16	95	46	74	0.1
IGP30N65F5	active and preferred	60	120	TO-220	650	90	188	1.6	0.28	18	4	174	15	70	35	55	0.07
IGP20N65F5	active and preferred	60	120	TO-220	650	60	125	1.6	0.16	18	3	170	30	48	21	42	0.06
IGBT TRENCHSTOP™ 5 H5																	
IGZ100N65H5	active and preferred	30	100	TO-247-4	650	400	536	1.65	0.85	30	9	421	15	210	101	161	0.77
IGW75N65H5	active and preferred	30	100	TO-247	650	300	395	1.65	2.25	28	33	174	41	160	75	120	0.95
IGZ75N65H5	active and preferred	30	100	TO-247-4	650	300	395	1.65	0.68	26	11	347	15	166	75	119	0.43
IGZ50N65H5	active and preferred	30	100	TO-247-4	650	200	273	1.65	0.41	20	7	250	21	109	54	85	0.19
IGB50N65H5	active and preferred	30	100	D2PAK (TO-263)	650	150	270	1.65	1.56	23	31	173	40	120	53.7	80	0.75
IGW50N65H5	active and preferred	30	100	TO-247	650	150	305	1.65	0.52	21	15	180	18	120	56	80	0.18
IGP40N65H5	active and preferred	30	100	TO-220	650	120	255	1.6	0.36	19	13	160	16	95	46	74	0.1
IGW40N65H5	active and preferred	30	100	TO-247	650	120	255	1.65	0.39	22	12	165	13	95	46	74	0.12
IGP30N65H5	active and preferred	30	100	TO-220	650	90	188	1.65	0.28	18	4	180	22	70	35	55	0.1
IGP20N65H5	active and preferred	30	100	TO-220	650	60	125	1.65	0.17	16	3	168	36	48	21	42	0.06
IGBT TRENCHSTOP™ 5 L5																	
IGW30N65L5	active and preferred	0.05	20	TO-247	650	120	227	1.05	0.47	33	11	308	51	168	62	85	1.35
IGBT TRENCHSTOP™ 5 S5																	
IGB50N65S5	active and preferred	10	40	D2PAK (TO-263)	650	200	270	1.35	1.23	20	30	139	60	120	63	80	0.74
IGB20N65S5	active and preferred	10	40	D2PAK (TO-263)	650	80	125	1.35	0.36	13	14	115	22	48	28	40	0.15
IGB15N65S5	active and preferred	10	40	D2PAK (TO-263)	650	60	105	1.35	0.25	12	14	117	30	38	23	35	0.14
IGBT TRENCHSTOP™ Perf.																	
IGW50N60TP	active and preferred	2	30	TO-247	600	150	319.2	1.6	2.25	21	34	277	55	249	61	80	1.39
IGW40N60TP	active and preferred	2	30	TO-247	600	120	246	1.6	1.63	19	30	273	47	177	48	67	1.05
IGW30N60TP	active and preferred	2	30	TO-247	600	90	200	1.6	0.99	15	23	220	59	130	38	53	0.74

Product	Product Status	Switching Frequency min [kHz]	Switching Frequency max [kHz]	Package	Voltage Class max [V]	I _{Cpuls} max [A]	P _{tot} max [W]	V _{CE(sat)} [V]	E _{on} [mJ]	t _{d(on)} [ns]	t _r [ns]	t _{d(off)} [ns]	t _f [ns]	Q _{Gate} [nC]	I _C @ 100° max [A]	I _C @ 25° max [A]	E _{off} Hard Switching [mJ]
IGBT TRENCHSTOP™																	
IGW60T120	active and preferred	2	20	TO-247	1200	150	375	2.3	6.4	50	45	600	130	280	60	100	9.4
IGW40T120	active and preferred	2	20	TO-247	1200	105	270	2.3	5	52	40	580	120	203	40	75	5.4
IGW25T120	active and preferred	2	20	TO-247	1200	75	190	2.2	3	50	32	660	130	155	25	50	4
IGW15T120	active and preferred	2	20	TO-247	1200	45	110	2.2	2	50	35	600	120	85	15	30	2.1
IGW08T120	active and preferred	2	20	TO-247	1200	24	70	2.2	1.08	40	26	570	140	53	8	16	1.2
IGW30N100T	active and preferred	2	20	TO-247	1000	90	412	1.55	2.2	33	21	535	34	217	30	60	1.6
IGW75N60T	active and preferred	2	20	TO-247	600	225	428	1.5	2	33	36	330	35	470	75	150	2.5
IGB50N60T	active and preferred	2	20	D2PAK (TO-263)	600	150	333	1.5	1.2	26	29	299	29	310	90	64	1.4
IGP50N60T	active and preferred	2	20	TO-220	600	150	333	1.5	1.2	26	29	299	29	310	64	90	1.4
IGW50N60T	active and preferred	2	20	TO-247	600	150	333	1.5	1.2	26	29	299	29	310	64	90	1.4
IGB30N60T	active and preferred	2	20	D2PAK (TO-263)	600	90	187	1.5	0.69	23	21	254	46	167	39	45	0.77
IGW30N60T	active and preferred	2	20	TO-247	600	90	187	1.5	0.69	23	21	254	46	167	39	45	0.77
IGB15N60T	active and preferred	2	20	D2PAK (TO-263)	600	45	130	1.5	0.22	17	11	188	50	87	23	26	0.35
IGP15N60T	active and preferred	2	20	TO-220	600	45	130	1.5	0.22	17	11	188	50	87	23	26	0.35
IGB10N60T	active and preferred	2	20	D2PAK (TO-263)	600	30	110	1.5	0.16	10	11	233	63	62	18	24	0.27
IGP10N60T	active and preferred	2	20	TO-220	600	30	110	1.5	0.16	12	8	215	38	62	18	24	0.27
IGD06N60T	active and preferred	2	20	DPAK (TO-252)	600	18	88	1.5	0.09	9	6	130	6	42	6	12	0.11
IGP06N60T	active and preferred	2	20	TO-220	600	18	88	1.5	0.09	9	6	130	58	42	6	12	0.11
IGU04N60T	active and preferred	2	20	TO-251	600	12	42	1.5	0.061	14	7	164	43	27	4	8	0.084