



IGBT Selection Guide

Common IGBT applications and topologies

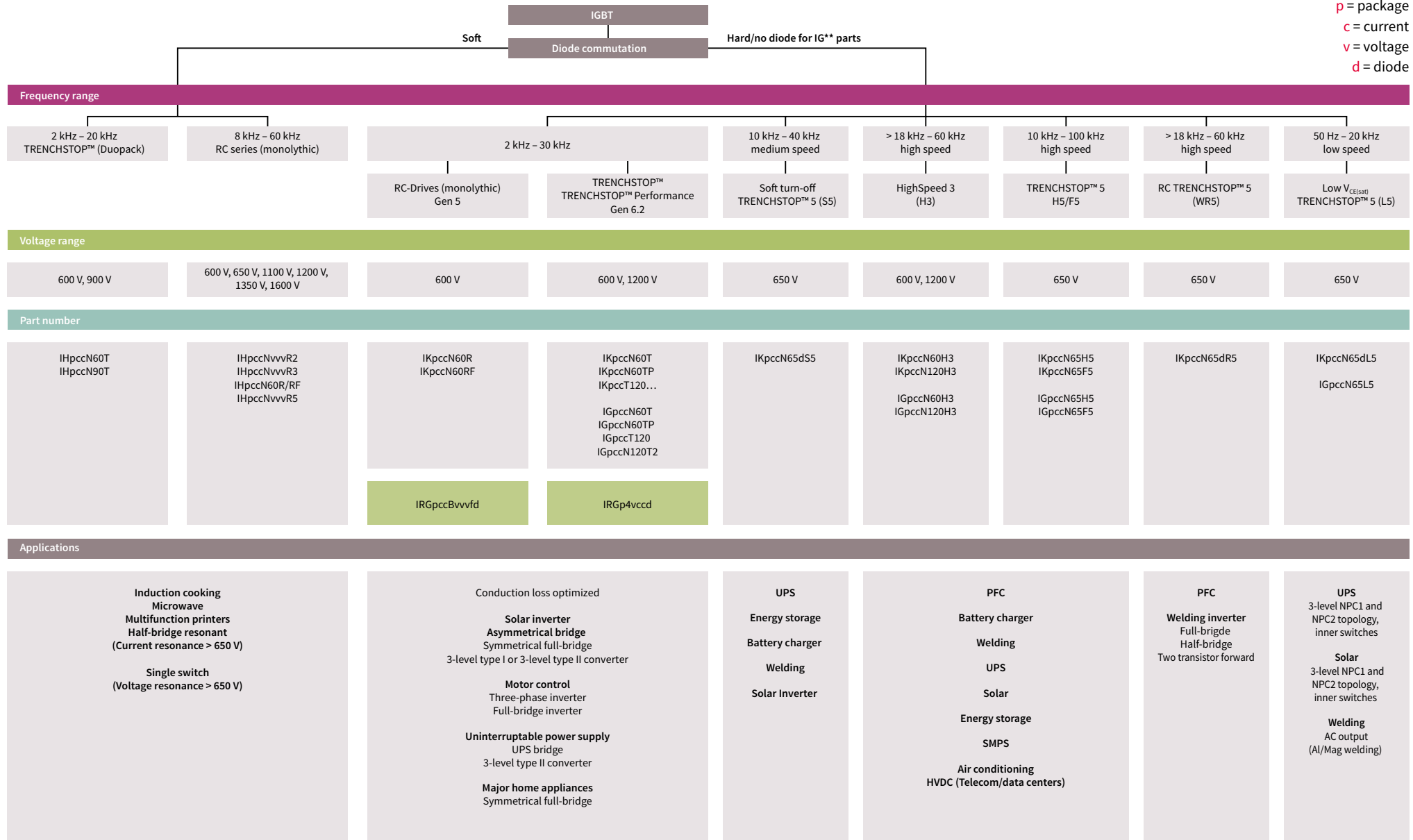


www.infineon.com/igbt

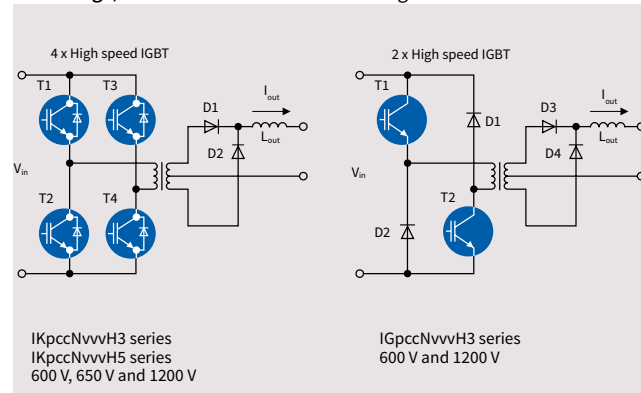
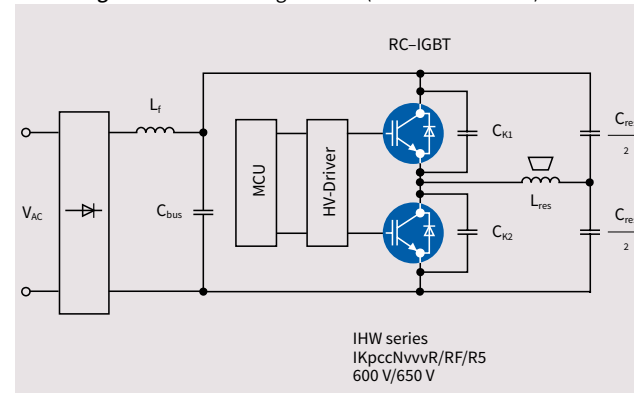
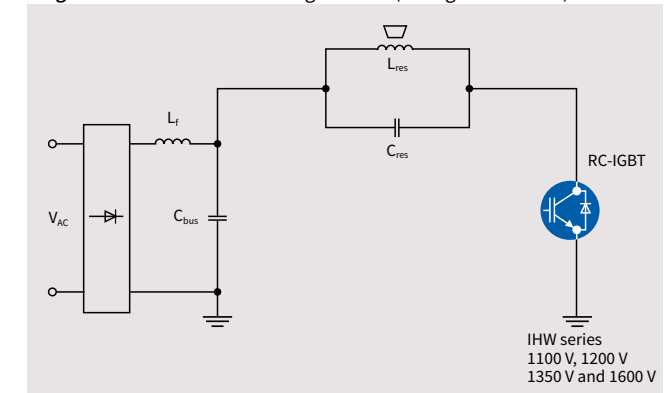
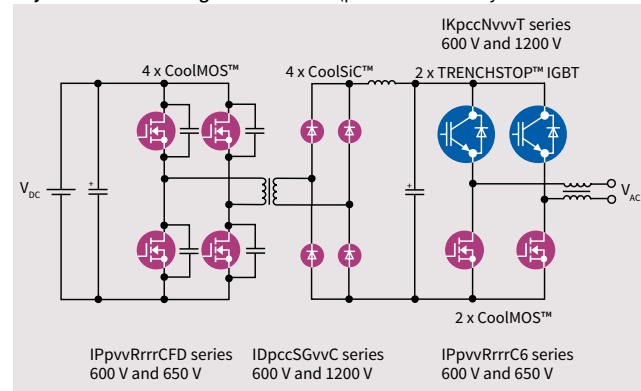
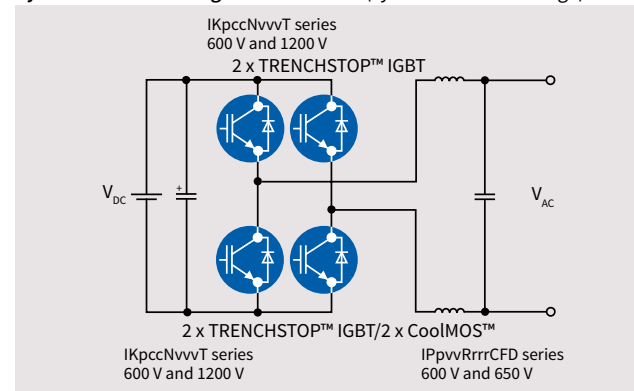
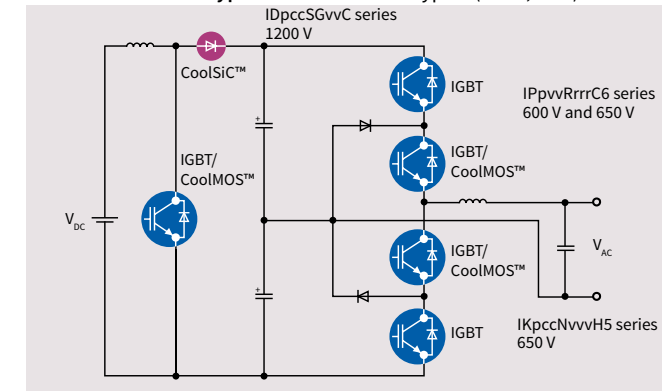
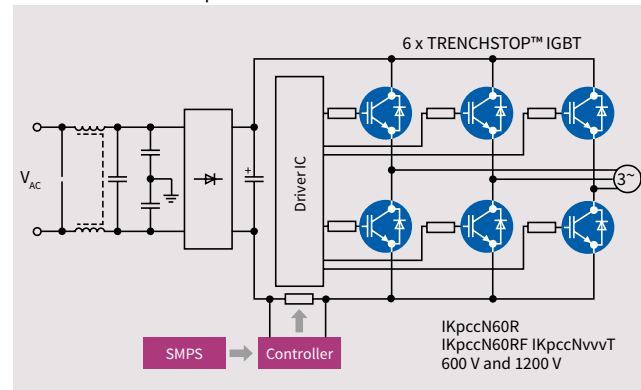
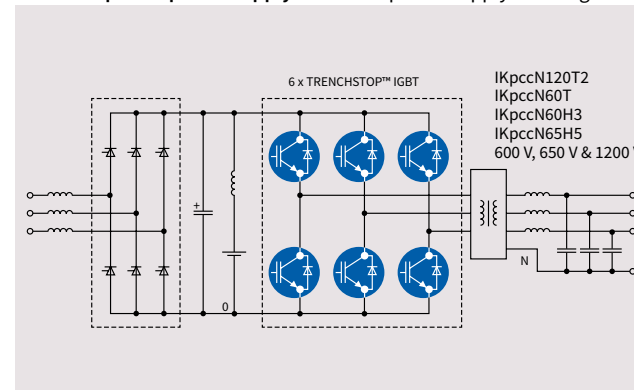


IGBT selection tree

Nomenclature: IGBT
 IKpccNvvvdH3 – IGBT + diode
 IGpccNvvvH3 – Single IGBT
 p = package
 c = current
 v = voltage
 d = diode



Common IGBT applications and topologies

Full-bridge/two transistor forward: welding inverter**Half-bridge:** induction heating inverter (current resonance)**Single switch:** induction heating inverter (voltage resonance)**Asymmetrical full-bridge:** solar inverter (phase-shift and asymmetrical full-bridge)**Symmetrical full-bridge:** solar inverter (symmetrical full-bridge)**Three level inverter type II:** 3-level inverter type II (Solar, UPS)**Motor control:** three-phase motor control**Uninterruptable power supply:** universal power supply b6-bridge

Nomenclature: IGBT

IKpccNvvvdH3

p = package

c = current

v = voltage

d = diode

Nomenclature: MOSFET

IPpvrRrrrCFD

p = package

c = current

r = resistance

■ IGBT parts

■ Other Infineon parts

www.infineon.com/igbtwww.infineon.com/coolmoswww.infineon.com/sic

IGBT with anti-parallel diode

Product type	V _{CE(max)} [V]	Diode	Switching frequency [F]	Package	Switching Hard/Soft	Series	I _{c(max)} at 100° [A]	V _{CE(sat)} (typ) at 25° [V]	E _{off} (typ) at 25° [mJ]	E _{on} (typ) at 25° [mJ]	Q _{rr} (typ) at 25° [nC]
IKW20N60H3	600	Y	18 kHz – 60 kHz	TO-247	Hard	HighSpeed 3	20	1.95	0.24	0.56	390
IKB20N60H3	600	Y	18 kHz – 60 kHz	TO-263	Hard	HighSpeed 3	20	1.95	0.24	0.45	390
IKP20N60H3	600	Y	18 kHz – 60 kHz	TO-220	Hard	HighSpeed 3	20	1.95	0.24	0.45	390
IKW30N60H3	600	Y	18 kHz – 60 kHz	TO-247	Hard	HighSpeed 3	30	1.95	0.44	0.94	320
IKW40N60H3	600	Y	18 kHz – 60 kHz	TO-247	Hard	HighSpeed 3	40	1.95	0.58	1.1	810
IKW50N60H3	600	Y	18 kHz – 60 kHz	TO-247	Hard	HighSpeed 3	50	1.85	0.91	1.45	880
IKW60N60H3	600	Y	18 kHz – 60 kHz	TO-247	Hard	HighSpeed 3	60	1.85	1.13	2.1	1200
IKW75N60H3	600	Y	18 kHz – 60 kHz	TO-247	Hard	HighSpeed 3	75	1.85	1.7	3	1800
IKW15N120H3	1200	Y	18 kHz – 60 kHz	TO-247	Hard	HighSpeed 3	15	2.05	0.45	1.1	800
IKW25N120H3	1200	Y	18 kHz – 60 kHz	TO-247	Hard	HighSpeed 3	25	2.05	0.85	1.8	1200
IKW40N120H3	1200	Y	18 kHz – 60 kHz	TO-247	Hard	HighSpeed 3	40	2.05	1.2	3.2	1900
IKD04N60R	600	Y	2 Hz – 4 kHz	TO-252	Hard	RC-Drives	4	1.65	0.15	0.09	220
IKD06N60R	600	Y	2 Hz – 4 kHz	TO-252	Hard	RC-Drives	6	1.65	0.22	0.11	370
IKD10N60R	600	Y	2 Hz – 4 kHz	TO-252	Hard	RC-Drives	10	1.65	0.38	0.21	560
IKD15N60R	600	Y	2 Hz – 4 kHz	TO-252	Hard	RC-Drives	15	1.65	0.53	0.37	760
IKW30N65WR5	650	Y	>18 kHz – 60 kHz	TO-247	Hard	RC TRENCHSTOP™ 5	30	1.40	0.14	0.63	1950
IKW40N65WR5	650	Y	>18 kHz – 60 kHz	TO-247	Hard	RC TRENCHSTOP™ 5	40	1.40	0.14	0.63	1950
IKW50N65WR5	650	Y	>18 kHz – 60 kHz	TO-247	Hard	RC TRENCHSTOP™ 5	50	1.40	0.18	0.74	2250
IKD03N60RF	600	Y	4 kHz – 30 kHz	TO-252	Hard	RC-Drives Fast	2.5	2.2	0.04	0.05	60
IKD04N60RF	600	Y	4 kHz – 30 kHz	TO-252	Hard	RC-Drives Fast	4	2.2	0.05	0.06	90
IKD06N60RF	600	Y	4 kHz – 30 kHz	TO-252	Hard	RC-Drives Fast	6	2.2	0.09	0.09	160
IKD10N60RF	600	Y	4 kHz – 30 kHz	TO-252	Hard	RC-Drives Fast	10	2.2	0.16	0.19	270
IKD15N60RF	600	Y	4 kHz – 30 kHz	TO-252	Hard	RC-Drives Fast	15	2.2	0.25	0.27	420
IHW40N60R	600	Y	8 kHz – 40 kHz	TO-247	Soft	RC Soft Switching	40	1.65	0.75	-	-
IHW40N60RF	600	Y	18 kHz – 60 kHz	TO-247	Soft	RC Fast Soft Switching	40	1.85	0.56	-	-
IHW20N65R5	650	Y	8 kHz – 60 kHz	TO-247	Soft	RC Soft Switching	20	1.35	0.16	0.54	1550
IHW40N65R5	650	Y	8 kHz – 60 kHz	TO-247	Soft	RC Soft Switching	40	1.35	0.37	1.10	2750
IHW50N65R5	650	Y	8 kHz – 60 kHz	TO-247	Soft	RC Soft Switching	50	1.35	0.45	1.50	2750
IHW30N110R3	1100	Y	8 kHz – 60 kHz	TO-247	Soft	RC Soft Switching	30	1.55	1.15	-	-
IHW15N120R3	1200	Y	8 kHz – 60 kHz	TO-247	Soft	RC Soft Switching	15	1.48	0.7	-	-
IHW20N120R3	1200	Y	8 kHz – 60 kHz	TO-247	Soft	RC Soft Switching	20	1.48	0.95	-	-
IHW20N120R5	1200	Y	8 kHz – 60 kHz	TO-247	Soft	RC Soft Switching	20	1.55	0.75	-	-
IHW25N120R2	1200	Y	8 kHz – 60 kHz	TO-247	Soft	RC Soft Switching	25	1.6	1.59	-	-
IHW30N120R3	1200	Y	8 kHz – 60 kHz	TO-247	Soft	RC Soft Switching	30	1.55	1.47	-	-
IHW30N120R2	1200	Y	8 kHz – 60 kHz	TO-247	Soft	RC Soft Switching	30	1.65	2.4	-	-
IHW40T120	1200	Y	8 kHz – 60 kHz	TO-247	Soft	RC Soft Switching	40	1.8	3.2	3.3	1880
IHW40N120R3	1200	Y	8 kHz – 60 kHz	TO-247	Soft	RC Soft Switching	40	1.55	2.02	-	-
IHW20N135R3	1350	Y	8 kHz – 60 kHz	TO-247	Soft	RC Soft Switching	20	1.6	1.3	-	-
IHW20N135R5	1350	Y	8 kHz – 60 kHz	TO-247	Soft	RC Soft Switching	20	1.65	0.95	-	-
IHW30N135R3	1350	Y	8 kHz – 60 kHz	TO-247	Soft	RC Soft Switching	30	1.65	1.93	-	-
IHW40N135R3	1350	Y	8 kHz – 60 kHz	TO-247	Soft	RC Soft Switching	40	1.65	2.5	-	-
IHW30N160R2	1600	Y	8 kHz – 60 kHz	TO-247	Soft	RC Soft Switching	30	1.8	2.53	-	-
IKP04N60T	600	Y	2 kHz – 20 kHz	TO-220	Hard	TRENCHSTOP™	4	1.5	84	61	79

IKB06N60T	600	Y	2 kHz – 20 kHz	TO-263	Hard	TRENCHSTOP™	6	1.5	0.11	0.09	190
IKP06N60T	600	Y	2 kHz – 20 kHz	TO-220	Hard	TRENCHSTOP™	6	1.5	0.11	0.09	190
IKA06N60T	600	Y	2 kHz – 20 kHz	TO-220 FullPAK	Hard	TRENCHSTOP™	6.2	1.5	0.11	0.06	190
IKA10N60T	600	Y	2 kHz – 20 kHz	TO-220 FullPAK	Hard	TRENCHSTOP™	7.2	1.5	0.27	0.16	380
IKA15N60T	600	Y	2 kHz – 20 kHz	TO-220 FullPAK	Hard	TRENCHSTOP™	8.9	1.5	0.35	0.22	240
IKP10N60T	600	Y	2 kHz – 20 kHz	TO-220	Hard	TRENCHSTOP™	18	1.5	0.27	0.16	380
IKB10N60T	600	Y	2 kHz – 20 kHz	TO-263	Hard	TRENCHSTOP™	18	1.5	0.27	0.16	380
IKB15N60T	600	Y	2 kHz – 20 kHz	TO-263	Hard	TRENCHSTOP™	23	1.5	0.35	0.22	240
IKP15N60T	600	Y	2 kHz – 20 kHz	TO-220	Hard	TRENCHSTOP™	23	1.5	0.35	0.22	240
IKW20N60T	600	Y	2 kHz – 20 kHz	TO-247	Hard	TRENCHSTOP™	20	1.5	0.46	0.31	310
IKB20N60T	600	Y	2 kHz – 20 kHz	TO-263	Hard	TRENCHSTOP™	20	1.5	0.46	0.31	310
IKP20N60T	600	Y	2 kHz – 20 kHz	TO-220	Hard	TRENCHSTOP™	28	1.5	0.46	0.31	310
IHW30N60T	600	Y	2 kHz – 20 kHz	TO-247	Soft	TRENCHSTOP™	30	1.5	0.77	-	-
IKW30N60T	600	Y	2 kHz – 20 kHz	TO-247	Hard	TRENCHSTOP™	39	1.5	0.77	0.69	920
IHW40T60	600	Y	2 kHz – 20 kHz	TO-247	Soft	TRENCHSTOP™	40	1.55	0.92	-	920
IKW50N60T	600	Y	2 kHz – 20 kHz	TO-247	Hard	TRENCHSTOP™	50	1.5	1.4	1.2	1800
IKW75N60T	600	Y	2 kHz – 20 kHz	TO-247	Hard	TRENCHSTOP™	75	1.5	2.5	2	2400
IKQ100N60T	600	Y	2 kHz – 20 kHz	TO-247PLUS	Hard	TRENCHSTOP™	100	1.5	2.5	3.1	2800
IKQ120N60T	600	Y	2 kHz – 20 kHz	TO-247PLUS	Hard	TRENCHSTOP™	120	1.5	5.9	2	3400
IKW08T120	1200	Y	2 kHz – 20 kHz	TO-247	Hard	TRENCHSTOP™	8	1.7	0.7	0.67	1000
IKW15T120	1200	Y	2 kHz – 20 kHz	TO-247	Hard	TRENCHSTOP™	15	1.7	1.4	1.3	1900
IKW25T120	1200	Y	2 kHz – 20 kHz	TO-247	Hard	TRENCHSTOP™	25	1.7	2.2	2.0	2300
IKW40T120	1200	Y	2 kHz – 20 kHz	TO-247	Hard	TRENCHSTOP™	40	1.7	3.2	3.3	3800
IKW15N120T2	1200	Y	2 kHz – 20 kHz	TO-247	Hard	TRENCHSTOP™ 2	15	1.7	0.8	1.25	1300
IKW25N120T2	1200	Y	2 kHz – 20 kHz	TO-247	Hard	TRENCHSTOP™ 2	25	1.7	1.35	1.55	2050
IKW40N120T2	1200	Y	2 kHz – 20 kHz	TO-247	Hard	TRENCHSTOP™ 2	40	1.75	2.05	3.2	3300
IKA08N65F5/H5	650	Y	30 kHz – 120 kHz	TO-220 FullPAK	Hard	TRENCHSTOP™ 5	6.8	1.6/1.65	0.02	0.07	140/130
IKA15N65F5/H5	650	Y	30 kHz – 120 kHz	TO-220 FullPAK	Hard	TRENCHSTOP™ 5	8.5	1.6/1.65	0.04/0.05	0.13/0.12	190/200
IKP08N65F5/H5	650	Y	30 kHz – 120 kHz	TO-220	Hard	TRENCHSTOP™ 5	11	1.6/1.65	0.02	0.07	140/130
IKP15N65F5/H5	650	Y	30 kHz – 120 kHz	TO-220	Hard	TRENCHSTOP™ 5	18	1.6/1.65	0.04/0.05	0.13/0.12	190/200
IKP20N65F5/H5	650	Y	30 kHz – 120 kHz	TO-220	Hard	TRENCHSTOP™ 5	21	1.6/1.65	0.06	0.16/0.17	280/270
IKP30N65F5/H5	650	Y	30 kHz – 120 kHz	TO-220	Hard	TRENCHSTOP™ 5	35	1.6/1.65	0.07/0.1	0.28	410
IKP40N65F5/H5	650	Y	30 kHz – 120 kHz	TO-220	Hard	TRENCHSTOP™ 5	46	1.6/1.65	0.10/0.12	0.36/0.39	450
IKW40N65F5/H5	650	Y	30 kHz – 120 kHz	TO-247	Hard	TRENCHSTOP™ 5	46	1.6/1.65	0.10/0.12	0.36/0.39	450/450
IKW50N65F5/H5	650	Y	30 kHz – 120 kHz	TO-247	Hard	TRENCHSTOP™ 5	56	1.6/1.65	0.16/0.18	0.49/0.52	450/570
IKW50N65EH5	650	Y	30 kHz – 100 kHz	TO-247	Hard	TRENCHSTOP™ 5	50	1.65	0.5	1.50	1.10
IKW75N65EH5	650	Y	30 kHz – 100 kHz	TO-247	Hard	TRENCHSTOP™ 5	75	1.65	0.90	2.30	1.33
IKZ50N65NH5	650	Y	30 kHz – 100 kHz	TO-247 4pin	Hard	TRENCHSTOP™ 5	50	1.65	0.12	0.33	510
IKZ50N65EH5	650	Y	30 kHz – 100 kHz	TO-247 4pin	Hard	TRENCHSTOP™ 5	50	1.65	0.12	0.42	840
IKZ75N65NH5	650	Y	30 kHz – 100 kHz	TO-247 4pin	Hard	TRENCHSTOP™ 5	75	1.76	0.2	0.44	650
IKZ75N65EH5	650	Y	30 kHz – 100 kHz	TO-247 4pin	Hard	TRENCHSTOP™ 5	75	1.76	0.2	0.63	1150
IKW30N65ES5	650	Y	10 kHz – 40 kHz	TO-247	Hard	TRENCHSTOP™ 5	39.5	1.35	0.32	0.56	0.83
IKW40N65ES5	650	Y	10 kHz – 40 kHz	TO-247	Hard	TRENCHSTOP™ 5	50	1.35	0.40	0.86	1.10
IKW50N65ES5	650	Y	10 kHz – 40 kHz	TO-247	Hard	TRENCHSTOP™ 5	60.5	1.35	0.55	1.23	1.25
IKW75N65ES5	650	Y	10 kHz – 40 kHz	TO-247	Hard	TRENCHSTOP™ 5	80	1.42	0.95	2.40	1.80
IKW30N65NL5	650	Y	50 Hz – 20 kHz	TO-247	Hard	TRENCHSTOP™ 5	62	1.05	1.35	0.56	0.48
IKW30N65EL5	650	Y	50 Hz – 20 kHz	TO-247	Hard	TRENCHSTOP™ 5	62	1.05	1.35	0.47	0.91
IKW75N65EL5	650	Y	50 Hz – 20 kHz	TO-247	Hard	TRENCHSTOP™ 5	80	1.10	3.20	1.61	1.37
IKZ75N65EL5	650	Y	50 Hz – 20 kHz	TO-247 4pin	Hard	TRENCHSTOP™ 5	100	1.10	3.20	1.57	1.30

IGBT without anti-parallel diode

Product type	V _{CE(max)} [V]	Diode	Switching frequency [F]	Package	Switching Hard/Soft	Series	I _{C(max)} at 100° [A]	V _{CE(sat)} (typ) at 25° [V]	E _{off} (typ) at 25° [mJ]	E _{on} (typ) at 25° [mJ]	Q _{rr} (typ) at 25° [mC]
IGA30N60H3	600	N	18 kHz – 60 kHz	TO-220 FullPAK	Hard	HighSpeed 3	11	1.95	0.44	0.73	n/a
IGB20N60H3	600	N	18 kHz – 60 kHz	TO-263	Hard	HighSpeed 3	20	1.95	0.24	0.45	n/a
IGP20N60H3	600	N	18 kHz – 60 kHz	TO-220	Hard	HighSpeed 3	20	1.95	0.24	0.45	n/a
IGW20N60H3	600	N	18 kHz – 60 kHz	TO-247	Hard	HighSpeed 3	20	1.95	0.24	0.56	n/a
IGP30N60H3	600	N	18 kHz – 60 kHz	TO-220	Hard	HighSpeed 3	30	1.95	0.44	0.73	n/a
IGB30N60H3	600	N	18 kHz – 60 kHz	TO-263	Hard	HighSpeed 3	30	1.95	0.44	0.73	n/a
IGW30N60H3	600	N	18 kHz – 60 kHz	TO-247	Hard	HighSpeed 3	30	1.95	0.44	0.94	n/a
IGW40N60H3	600	N	18 kHz – 60 kHz	TO-247	Hard	HighSpeed 3	40	1.95	0.58	1.1	n/a
IGW50N60H3	600	N	18 kHz – 60 kHz	TO-247	Hard	HighSpeed 3	50	1.85	0.91	1.45	n/a
IGW60N60H3	600	N	18 kHz – 60 kHz	TO-247	Hard	HighSpeed 3	60	1.85	1.13	2.1	n/a
IGW75N60H3	600	N	18 kHz – 60 kHz	TO-247	Hard	HighSpeed 3	75	1.85	1.7	3	n/a
IGW100N60H3	600	N	18 kHz – 60 kHz	TO-247	Hard	HighSpeed 3	120	1.85	1.9	3.7	n/a
IGW15N120H3	1200	N	18 kHz – 60 kHz	TO-247	Hard	HighSpeed 3	15	2.05	0.45	1.1	n/a
IGW25N120H3	1200	N	18 kHz – 60 kHz	TO-247	Hard	HighSpeed 3	25	2.05	0.85	1.8	n/a
IGW40N120H3	1200	N	18 kHz – 60 kHz	TO-247	Hard	HighSpeed 3	40	2.05	1.23	1.93	n/a
IGD06N60T	600	N	2 kHz – 20 kHz	TO-252	Hard	TRENCHSTOP™	6	1.5	0.11	0.09	n/a
IGP06N60T	600	N	2 kHz – 20 kHz	TO-220	Hard	TRENCHSTOP™	6	1.5	0.11	0.09	n/a
IGB10N60T	600	N	2 kHz – 20 kHz	TO-263	Hard	TRENCHSTOP™	18	1.5	0.27	0.16	n/a
IGP10N60T	600	N	2 kHz – 20 kHz	TO-220	Hard	TRENCHSTOP™	18	1.5	0.27	0.16	n/a
IGB15N60T	600	N	2 kHz – 20 kHz	TO-263	Hard	TRENCHSTOP™	23	1.5	0.35	0.22	n/a
IGP15N60T	600	N	2 kHz – 20 kHz	TO-220	Hard	TRENCHSTOP™	23	1.5	0.35	0.22	n/a
IGB30N60T	600	N	2 kHz – 20 kHz	TO-263	Hard	TRENCHSTOP™	39	1.5	0.77	0.69	n/a
IGW30N60T	600	N	2 kHz – 20 kHz	TO-247	Hard	TRENCHSTOP™	39	1.5	0.77	0.69	n/a
IGB50N60T	600	N	2 kHz – 20 kHz	TO-263	Hard	TRENCHSTOP™	64	1.5	1.4	1.2	n/a
IGP50N60T	600	N	2 kHz – 20 kHz	TO-247	Hard	TRENCHSTOP™	64	1.5	1.4	1.2	n/a
IGW50N60T	600	N	2 kHz – 20 kHz	TO-247	Hard	TRENCHSTOP™	64	1.5	1.4	1.2	n/a
IGW75N60T	600	N	2 kHz – 20 kHz	TO-247	Hard	TRENCHSTOP™	75	1.5	2.5	2	n/a
IGW15T120	1200	N	2 kHz – 20 kHz	TO-247	Hard	TRENCHSTOP™	15	1.7	1.4	1.3	n/a
IGW25T120	1200	N	2 kHz – 20 kHz	TO-247	Hard	TRENCHSTOP™	25	1.7	2.2	2	n/a
IGW40T120	1200	N	2 kHz – 20 kHz	TO-247	Hard	TRENCHSTOP™	40	1.7	3.2	3.3	n/a
IGW60T120	1200	N	2 kHz – 20 kHz	TO-247	Hard	TRENCHSTOP™	60	1.9	5.2	4.3	n/a
IGW08T120	1200	N	2 kHz – 20 kHz	TO-247	Hard	TRENCHSTOP™	8	1.7	0.7	0.67	n/a
IGP20N65F5/H5	650	N	30 kHz – 120 kHz	TO-220	Hard	TRENCHSTOP™ 5	21	1.6/1.65	0.06	0.16/0.17	-
IGP40N65F5/H5	650	N	30 kHz – 120 kHz	TO-220	Hard	TRENCHSTOP™ 5	46	1.6/1.65	0.10/0.12	0.36/0.39	n/a
IGW40N65F5/H5	650	N	30 kHz – 120 kHz	TO-247	Hard	TRENCHSTOP™ 5	46	1.6/1.65	0.10/0.12	0.36/0.39	n/a
IGW50N65F5/H5	650	N	30 kHz – 120 kHz	TO-247	Hard	TRENCHSTOP™ 5	56	1.6/1.65	0.16/0.18	0.49/0.52	n/a
IGW75N65H5	650	N	30 kHz – 100 kHz	TO-247	Hard	TRENCHSTOP™ 5	75	1.65	0.95	2.25	n/a
IGZ50N65H5	650	N	30 kHz – 100 kHz	TO-247 4pin	Hard	TRENCHSTOP™ 5	54	1.65	0.19	0.41	n/a
IGZ75N65H5	650	N	30 kHz – 100 kHz	TO-247 4pin	Hard	TRENCHSTOP™ 5	75	1.65	0.43	0.68	n/a
IGZ100N65H5	650	N	30 kHz – 100 kHz	TO-247 4pin	Hard	TRENCHSTOP™ 5	101	1.65	0.77	0.85	n/a
IGW30N65L5	650	N	50 Hz – 20 kHz	TO-247	Hard	TRENCHSTOP™ 5	62	1.05	1.35	0.47	n/a
IGW30N60TP	600	N	2 kHz – 30 kHz	TO-247	Hard	TRENCHSTOP™ Performance	38	1.60	0.42	0.71	n/a

IGW40N60TP	600	N	2 kHz – 30 kHz	TO-247	Hard	TRENCHSTOP™ Performance	48	1.60	0.61	1.06	n/a
IGW50N60TP	600	N	2 kHz – 30 kHz	TO-247	Hard	TRENCHSTOP™ Performance	61	1.60	0.85	1.53	n/a
IKW30N60DTP	600	Y	2 kHz – 30 kHz	TO-247	Hard	TRENCHSTOP™ Performance	38	1.60	0.42	0.71	0.45
IKW40N60DTP	600	Y	2 kHz – 30 kHz	TO-247	Hard	TRENCHSTOP™ Performance	48	1.60	0.61	1.06	0.56
IKW50N60DTP	600	Y	2 kHz – 30 kHz	TO-247	Hard	TRENCHSTOP™ Performance	61	1.60	0.85	1.53	0.75

Gen 5 and Gen 6.2 Discrete IGBTs

Product type	V _{CE(max)} [V]	Diode	Switching frequency [F]	Package	Switching Hard/Soft	Series	I _{C(max)} at 100° [A]	V _{CE(sat)} (typ) at 25° [V]	E _{off} (typ) at 25° [mJ]	E _{on} (typ) at 25° [mJ]	Q _{rr} (typ) at 25° [mC]
IRGR2B60KD	600	Y	8 kHz – 30 kHz	DPAK	Hard	Gen 5	3.7	1.83	0.074	0.039	-
IRGR3B60KD2	600	Y	8 kHz – 30 kHz	DPAK	Hard	Gen 5	4.2	1.9	0.062	0.039	-
IRGS4B60K	600	N	8 kHz – 30 kHz	D ² PAK	Hard	Gen 5	6.8	2.1	0.073	0.047	-
IRGB4B60K	600	N	8 kHz – 30 kHz	TO-220	Hard	Gen 5	6.8	2.1	0.073	0.047	-
IRGS6B60K	600	N	8 kHz – 30 kHz	D ² PAK	Hard	Gen 5	7	1.8	0.11	0.135	-
IRGB6B60K	600	N	8 kHz – 30 kHz	TO-220	Hard	Gen 5	7	1.8	0.11	0.135	-
IRGSL6B60KD	600	Y	8 kHz – 30 kHz	TO-262, TO-251	Hard	Gen 5	7	1.8	0.11	0.135	-
IRGS6B60KD	600	Y	8 kHz – 30 kHz	D ² PAK	Hard	Gen 5	7	1.8	0.11	0.135	-
IRGB6B60KD	600	Y	8 kHz – 30 kHz	TO-220	Hard	Gen 5	7	1.8	0.11	0.135	-
IRGIB6B60KD	600	Y	8 kHz – 30 kHz	TO-220 FullPAK	Hard	Gen 5	7	1.8	0.11	0.135	-
IRGSL4B60KD1	600	Y	8 kHz – 30 kHz	TO-262, TO-251	Hard	Gen 5	7.6	2.1	0.073	0.047	-
IRGS4B60KD1	600	Y	8 kHz – 30 kHz	D ² PAK	Hard	Gen 5	7.6	2.1	0.073	0.047	-
IRGS4B60KD1	600	Y	8 kHz – 30 kHz	TO-220	Hard	Gen 5	7.6	2.1	0.073	0.047	-
IRGR4607D	600	Y	8 kHz – 30 kHz	DPAK	Hard	Gen 6.2	7	1.75	0.14	0.062	-
IRGS4607D	600	Y	8 kHz – 30 kHz	D ² PAK	Hard	Gen 6.2	7	1.75	0.14	0.062	-
IRGB4607D	600	Y	8 kHz – 30 kHz	TO-220	Hard	Gen 6.2	7	1.75	0.14	0.062	-
IRGIB4607D*	600	Y	8 kHz – 30 kHz	TO-220 FullPAK	Hard	Gen 6.2	7	1.75	0.14	0.062	-
IRGR4610D	600	Y	8 kHz – 30 kHz	DPAK	Hard	Gen 6.2	10	1.7	0.056	0.122	-
IRGS4610D	600	Y	8 kHz – 30 kHz	D ² PAK	Hard	Gen 6.2	10	1.7	0.056	0.122	-
IRGB4610D	600	Y	8 kHz – 30 kHz	TO-220	Hard	Gen 6.2	10	1.7	0.056	0.122	-
IRGIB4610D*	600	Y	8 kHz – 30 kHz	TO-220 FullPAK	Hard	Gen 6.2	10	1.7	0.056	0.122	-
IRGS4615D	600	Y	8 kHz – 30 kHz	D ² PAK	Hard	Gen 6.2	15	1.55	0.07	0.145	-
IRGB4615D	600	Y	8 kHz – 30 kHz	TO-220	Hard	Gen 6.2	15	1.55	0.07	0.145	-
IRGIB4615D*	600	Y	8 kHz – 30 kHz	TO-220 FullPAK	Hard	Gen 6.2	15	1.55	0.07	0.145	-
IRGS4620D	600	Y	8 kHz – 30 kHz	D ² PAK	Hard	Gen 6.2	20	1.55	0.075	0.225	-
IRGB4620D	600	Y	8 kHz – 30 kHz	TO-220	Hard	Gen 6.2	20	1.55	0.075	0.225	-
IRGIB4620D	600	Y	8 kHz – 30 kHz	TO-220 FullPAK	Hard	Gen 6.2	20	1.55	0.075	0.225	-
IRGP4620D	600	Y	8 kHz – 30 kHz	TO-247	Hard	Gen 6.2	20	1.55	0.075	0.225	-
IRGP4620D-E	600	Y	8 kHz – 30 kHz	TO-247 (Long Lead)	Hard	Gen 6.2	20	1.55	0.075	0.225	-
IRGS4630D	600	Y	8 kHz – 30 kHz	D ² PAK	Hard	Gen 6.2	30	1.65	0.095	0.35	-
IRGB4630D	600	Y	8 kHz – 30 kHz	TO-220	Hard	Gen 6.2	30	1.65	0.095	0.35	-
IRGIB4630D	600	Y	8 kHz – 30 kHz	TO-220 FullPAK	Hard	Gen 6.2	30	1.65	0.095	0.35	-
IRGP4630D	600	Y	8 kHz – 30 kHz	TO-247	Hard	Gen 6.2	30	1.65	0.095	0.35	-
IRGP4630D-E	600	Y	8 kHz – 30 kHz	TO-247 (Long Lead)	Hard	Gen 6.2	30	1.65	0.095	0.35	-
IRGS4640D	600	Y	8 kHz – 30 kHz	D ² PAK	Hard	Gen 6.2	40	1.6	0.115	0.6	-
IRGB4640D	600	Y	8 kHz – 30 kHz	TO-220	Hard	Gen 6.2	40	1.6	0.115	0.6	-

Gen 5 and Gen 6.2 Discrete IGBTs

Product type	V _{CE(max)} [V]	Diode	Switching frequency [F]	Package	Switching Hard/Soft	Series	I _{C(max)} at 100° [A]	V _{CE(sat)} (typ) at 25° [V]	E _{off} (typ) at 25° [mJ]	E _{on} (typ) at 25° [mJ]	Q _{rr} (typ) at 25° [mC]
IRGIB4640D	600	Y	8 kHz – 30 kHz	TO-220 FullPAK	Hard	Gen 6.2	40	1.6	0.115	0.6	-
IRGP4640D	600	Y	8 kHz – 30 kHz	TO-247	Hard	Gen 6.2	40	1.6	0.115	0.6	-
IRGP4640D-E	600	Y	8 kHz – 30 kHz	TO-247 (Long Lead)	Hard	Gen 6.2	40	1.6	0.115	0.6	-
IRGP4640	600	N	8 kHz – 30 kHz	TO-247	Hard	Gen 6.2	40	1.6	0.1	0.6	-
IRGP4640-E	600	N	8 kHz – 30 kHz	TO-247 (Long Lead)	Hard	Gen 6.2	40	1.6	0.1	0.6	-
IRGP4650D	600	Y	8 kHz – 30 kHz	TO-247	Hard	Gen 6.2	50	1.6	0.39	0.632	-
IRGP4650D-E	600	Y	8 kHz – 30 kHz	TO-247 (Long Lead)	Hard	Gen 6.2	50	1.6	0.39	0.632	-
IRGP4660D	600	Y	8 kHz – 30 kHz	TO-247	Hard	Gen 6.2	60	1.65	0.625	1275	-
IRGP4660D-E	600	Y	8 kHz – 30 kHz	TO-247 (Long Lead)	Hard	Gen 6.2	60	1.65	0.625	1275	-
IRGP4690D	600	Y	8 kHz – 30 kHz	TO-247	Hard	Gen 6.2	90	1.7	2.465	2.155	-
IRGP4690D-E	600	Y	8 kHz – 30 kHz	TO-247 (Long Lead)	Hard	Gen 6.2	90	1.7	2.465	2.155	-
IRGPS46160D	600	Y	8 kHz – 30 kHz	TO-247PLUS (Super247)	Hard	Gen 6.2	160	1.7	5.75	3.43	-
IRGPS66160D	600	Y	8 kHz – 30 kHz	TO-247PLUS (Super247)	Hard	Gen 6.2	160	1.7	4.47	3.43	-
IRGS4715D	650	Y	8 kHz – 30 kHz	D ² PAK	Hard	Gen 6.2	15	1.55	0.2	0.09	-
IRGB4715D	650	Y	8 kHz – 30 kHz	TO-220	Hard	Gen 6.2	15	1.55	0.2	0.09	-
IRGP4740D	650	Y	8 kHz – 30 kHz	TO-247	Hard	Gen 6.2	40	1.6	0.52	0.24	-
IRGP4740D-E	650	Y	8 kHz – 30 kHz	TO-247 (Long Lead)	Hard	Gen 6.2	40	1.6	0.52	0.24	-
IRGP4750D	650	Y	8 kHz – 30 kHz	TO-247	Hard	Gen 6.2	50	1.7	1.3	0.5	-
IRGP4750D-E	650	Y	8 kHz – 30 kHz	TO-247 (Long Lead)	Hard	Gen 6.2	50	1.7	1.3	0.5	-
IRGP4760D	650	Y	8 kHz – 30 kHz	TO-247	Hard	Gen 6.2	60	1.65	1.7	1	-
IRGP4760D-E	650	Y	8 kHz – 30 kHz	TO-247 (Long Lead)	Hard	Gen 6.2	60	1.65	1.7	1	-
IRGP4760	650	N	8 kHz – 30 kHz	TO-247	Hard	Gen 6.2	60	1.65	1.7	1	-
IRGP4760-E	650	N	8 kHz – 30 kHz	TO-247 (Long Lead)	Hard	Gen 6.2	60	1.65	1.7	1	-
IRGP4790D	650	Y	8 kHz – 30 kHz	TO-247	Hard	Gen 6.2	90	1.7	2.5	2.2	-
IRGP4790D-E	650	Y	8 kHz – 30 kHz	TO-247 (Long Lead)	Hard	Gen 6.2	90	1.7	2.5	2.2	-
IRGP4790	650	N	8 kHz – 30 kHz	TO-247	Hard	Gen 6.2	90	1.7	2.5	2.2	-
IRGP4790-E	650	N	8 kHz – 30 kHz	TO-247 (Long Lead)	Hard	Gen 6.2	90	1.7	2.5	2.2	-
IRGPS47160D*	650	Y	8 kHz – 30 kHz	TO-247PLUS (Super247)	Hard	Gen 6.2	160	1.7	-	-	-

* Coming in 2016

Published by
Infineon Technologies Austria AG
9500 Villach, Austria

© 2016 Infineon Technologies AG.
All Rights Reserved.

Order number: B152-H9617-V7-7600-EU-EC-P
Date: 04 / 2016

Please note!

THIS DOCUMENT IS FOR INFORMATION PURPOSES ONLY AND ANY INFORMATION GIVEN HEREIN SHALL IN NO EVENT BE REGARDED AS A WARRANTY, GUARANTEE OR DESCRIPTION OF ANY FUNCTIONALITY, CONDITIONS AND/OR QUALITY OF OUR PRODUCTS OR ANY SUITABILITY FOR A PARTICULAR PURPOSE. WITH REGARD TO THE TECHNICAL SPECIFICATIONS OF OUR PRODUCTS, WE KINDLY ASK YOU TO REFER TO THE RELEVANT PRODUCT DATA SHEETS PROVIDED BY US. OUR CUSTOMERS AND THEIR TECHNICAL DEPARTMENTS ARE REQUIRED TO EVALUATE THE SUITABILITY OF OUR PRODUCTS FOR THE INTENDED APPLICATION.

WE RESERVE THE RIGHT TO CHANGE THIS DOCUMENT AND/OR THE INFORMATION GIVEN HEREIN AT ANY TIME.

Additional information

For further information on technologies, our products, the application of our products, delivery terms and conditions and/or prices, please contact your nearest Infineon Technologies office (www.infineon.com).

Warnings

Due to technical requirements, our products may contain dangerous substances. For information on the types in question, please contact your nearest Infineon Technologies office.

Except as otherwise explicitly approved by us in a written document signed by authorized representatives of Infineon Technologies, our products may not be used in any life-endangering applications, including but not limited to medical, nuclear, military, life-critical or any other applications where a failure of the product or any consequences of the use thereof can result in personal injury.