

Ultra-High Speed with Integral Antiparallel Diode

IGBTs and ultra-fast, soft recovery diodes combined in a single package to give improved thermal management, space saving, ease of design and total cost reduction.

V_{CE0} V	I_c cont @ 25°C A	$V_{CE SAT}$ max V	I_{CM} Pulsed A	t_r typ ns	t_r max (▲ typ) ns	P_D @ 25°C W	Pack- age	Mftr.	Mftrs. List No.
500	14	2.9	28	11.0	140	60	a	IR	IRGB420UD2
600	14	2.0	56	11.5	275	60	a	INTS	HGTP7N60C3D
600	40	2.0	160	20.0	200	165	b	INTS	HGTG20N60B3D
600	40	2.4	160	57.0	120	160	b	IR	IRG4PC40UD
600	63	1.8	252	45.0	275	208	b	INTS	HGTG30N60C3D

* Short circuit rated

SD199

Mftrs. List No.	Order Code	1+	Price Each	25+	100+
HGTG20N60B3D	.739-558				
HGTG30N60C3D	.739-534 †				
HGTP7N60C3D	.739-595				
IRGB420UD2	.484-957				
IRG4PC40UD	.742-843				

† Available until stocks are exhausted

SIP Modules



- PCB mounted
- Fully isolated, 2.5kV isolation voltage
- Incorporates HEXFRED soft ultra-fast diodes
- Frequency optimised
- Switching loss rating includes all 'tail' losses

International
IR Rectifier

V_{CES} V	I_c @ $T_c = 25^\circ\text{C}$ A	I_{CM} Pulsed A	$V_{CE (sat.)}$ max. A	@ I_c A	t_r (typ.) ns	t_f (max.) ns	P_D @ $T_c = 25^\circ\text{C}$ W	Mftrs. List No.
Fast Switching, 1kHz to 10kHz optimised								
600	8.8	26	1.7	4.8	22	320	23	CPV362M4F
600	16.0	50	1.5	8.7	16	240	36	CPV363M4F
600	27.0	80	1.5	15.0	18	240	63	CPV364M4F
Ultra-Fast Switching, >5kHz optimised								
600	7.2	22	2.2	3.9	22	180	23	CPV362M4U
600	13.0	40	2.2	6.8	14	190	36	CPV363M4U
600	20.0	60	2.1	10.0	13	160	63	CPV364M4U
Ultra-Fast Switching, Short Circuit Rated								
600	5.7	11	1.93	3.0	54	180	23	CPV362M4K
600	11.0	22	2.1	6.0	24	140	36	CPV363M4K
600	24.0	48	2.3	13.0	30	140	63	CPV364M4K

SD460

Mftrs. List No.	Order Code	1+	Price Each	5+	25+
CPV362M4F	.166-042				
CPV362M4K	.166-054				
CPV362M4U	.166-066				
CPV363M4F	.166-078				
CPV363M4K	.167-782				
CPV363M4U	.167-794				
CPV364M4F	.167-800				
CPV364M4K	.167-812				
CPV364M4U	.167-824				

Power Modules



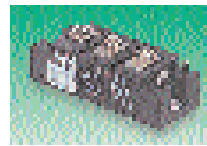
International
IR Rectifier

V_{CE0} V	I_c cont 25°C, A	$V_{CE sat}$ typ., V	I_{CM} Pulsed, A	t_r typ., ns	t_f max. (*typ.), ns	P_D 25°C, W	Package	Mftrs. List No.
Ultra-Fast Switching								
600	200	1.6	400	75	460	500	SOT-227	GA200SA60U
Low Conduction Loss								
600	200	1.1	400	60	660	630	SOT-227	GA200SA60S

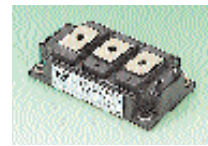
SD469

Mftrs. List No.	Order Code	1+	5+	10+	25+	50+
GA200SA60S	315-7209					
GA200SA60U	315-7210					

Power Modules



(a) INT-A-PAK



(b) DOUBLE INT-A-PAK
(c) DOUBLE INT-A-PAK

V_{CES} V	I_c @ $T_c = 25^\circ\text{C}$ A	I_{CM} Pulsed A	$V_{CE (sat.)}$ max. A	@ I_c A	t_r (typ.) ns	t_f (typ.) ns	P_D @ $T_c = 25^\circ\text{C}$ W	Package	Mftr.	Mftrs. List No.	
Single Switch Configuration											
250	600	1200	1.4	600	950	934	1920	(c)	IR	GA600GD25S	
1200	200	400	4.0	200	300	200	1400	2-109A4A	TOSH	MG200Q1US41	
1200	300	600	4.0	300	300	200	2000	2-109F1A	TOSH	MG300Q1US41	
1200	300	600	3.6	200	50	100	1500	2-109F1A	TOSH	MG200Q1US51	
1200	400	800	4.0	400	300	800	2400	2-109A4A	TOSH	MG400Q1US41	
1200	400	800	3.6	300	50	100	2500	2-109F1A	TOSH	MG300Q1US51	
1200	520	1040	3.6	400	50	100	3000	2-109F1A	TOSH	MG400Q1US51	
Half-Bridge Configuration											
250	400	800	1.6	400	365	792	1350	(b)	IR	GA400TD25S	
600	50	100	2.7	50	120	150	280	2-94D1A	TOSH	MG50J2YS50	
600	75	150	2.7	75	120	150	390	2-94D1A	TOSH	MG75J2YS50	
600	100	200	2.7	100	120	150	450	2-94D1A	TOSH	MG100J2YS50	
600	150	300	2.7	150	150	150	780	2-95A1A	TOSH	MG150J2YS50	
600	200	400	2.7	200	150	150	900	2-95A1A	TOSH	MG200J2YS50	
600	400	800	2.7	400	120	150	1800	2-109D1A	TOSH	MG400J2YS50	
1200	25	50	4.0	25	600	500	200	2-93A3A	TOSH	MG2506ES42	
1200	50	100	3.0	50	82	327	280	(a)	IR	GA50TS120U	
1200	50	100	4.0	50	300	200	400	2-94D1A	TOSH	MG50Q2YS40	
1200	75	150	3.1	75	119	402	390	(a)	IR	GA75TS120U	
1200	78	156	3.6	50	50	100	400	2-94D4A	TOSH	MG50Q2YS50	
1200	100	200	4.0	100	300	200	700	2-109C1A	TOSH	MG100Q2YS42	
1200	100	200	3.6	75	50	100	600	2-94D4A	TOSH	MG75Q2YS50	
1200	150	300	4.0	150	300	200	1100	2-109C1A	TOSH	MG150Q2YS40	
1200	150	300	3.6	100	50	100	660	2-95A4A	TOSH	MG100Q2YS50	
1200	150	300	3.6	100	50	100	660	2-109C4A	TOSH	MG100Q2YS51	
1200	200	400	3.6	150	50	100	1250	2-95A4A	TOSH	MG150Q2YS50	
1200	200	400	3.6	150	50	100	1250	2-109C4A	TOSH	MG150Q2YS51	
1200	300	600	3.6	200	50	100	1400	2-109C4A	TOSH	MG200Q2YS50	

SD195

Mftrs. List No.	Order Code	1+	Price Each	4+	8+
GA50TS120U	167-848				
GA75TS120U	167-861				
GA400TD25S	167-836				
GA600GD25S	167-850				
Price Each					
		1+	4+	5+	10+
MG25Q6ES42	327-2497				
MG50Q2YS40	327-2503				
MG75Q2YS50	327-2515				
MG100J2YS50	327-2527				
MG100Q2YS42	327-2539				
MG100Q2YS50	327-2540				
MG100Q2YS51	327-2552				
MG150Q2YS40	327-2564				
MG150Q2YS50	327-2576				
MG150Q2YS51	327-2588				
MG200Q1US41	327-2590				
MG200Q1US51	327-2606				
MG200Q2YS50	327-2618				
MG300Q1US41	327-2620				
MG300Q1US51	327-2631				
MG400Q1US41	327-2643				
MG400Q1US51	327-2655				
MG50J2YS50	327-9029				
MG50Q2YS50	327-9030				
MG75J2YS50	327-9042				
MG150J2YS50	327-9054				
MG200J2YS50	327-9066				
MG400J2YS50	327-9078				

MiniSKiiP IGBT/Diode Power Converters



- User configurable, combined 3-phase bridge rectifier, 3-phase IGBT bridge and IGBT chopper brake
- Pressure contact pcb connection
- Low switching loss IGBT with fast, soft-recovery diode
- Simple, low cost snap-on assembly
- Highly conductive ceramic substrate
- Through hole, screw connection to heatsink
- Integrated temperature sensor

SEMIKRON
Innovation | Service

Bridge Rectifier			Inverter		
V_{RM} V	I_g @ 80°C A	I_{ISM} A	V_{CES} V	I_c @ 25°C IGBT/Cal diode A	Rthj-h IGBT/Cal diode K/W
800	25	370	600	30/20	1.8/1.6
1500	35	700	1200	33/22	1.0/1.6

Mftrs. List No.
SKiiP30NAB06
SKiiP30NAB12

SD409

Mftrs. List No.	Order Code	1+	Price Each	25+	100+
SKiiP30NAB06	.994-959				
SKiiP30NAB12	.994-960				

Continued