

5th Generation CSTBT™ IGBT Modules (A-Series)

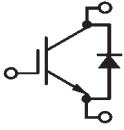
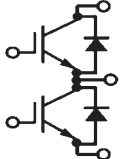
Features

- Combining 5th Generation CSTBT™ (Carrier Stored Trench Gate Bipolar Transistor) chip technology with a LPT (Light Punch-through) wafer for:
 - Low $V_{CE(sat)}$
 - High Short Circuit Robustness
 - Reduced Gate Capacitance
- About 10% higher inverter output current and about 15% better performance $\Delta T_{(j-f)}$ at same inverter output current than other Trench IGBTs currently being marketed
- Cost optimised package sizes
- Excellent thermal conductivity by AlN isolation substrate
- Low internal inductance
- Significant improvement of power cycling capability by new wire bonding technology



1.05 5th Generation CSTBT™ IGBT Modules (A-Series)

Line-up A-Series

Symbol	Circuit Diagram	V _{CES} (V)	I _c (A)								
			75	100	150	200	300	400	500	600	
H		1200							CM400HA-24A		CM600HA-24A CM600HB-24A
		1700								CM500HA-34A	
D		1200		CM100DY-24A	CM150DY-24A	CM200DY-24A	CM300DY-24A	CM400DY-24A			CM600DY-24A
		1700	CM75DY-34A	CM100DY-34A	CM150DY-34A	CM200DY-34A	CM300DY-34A	CM400DY-34A			

Type Number	Maximum Ratings			Electrical Characteristics (T _j = 25°C)								Free Wheel Diode (T _j = 25°C)			Thermal Characteristics			Package-No.	
	V _{CES} (V)	I _c (A)	V _{iso} (V)	V _{CE(sat)} (V)		C _{ies} (nF)	C _{oes} (nF)	C _{res} (nF)	Maximum Switching Times				V _f (V)	Q _{rr} (μC)	t _{rr} (ns)	IGBT R _{th(j-c)} (°C/W)	Diode R _{th(j-c)} (°C/W)		R _{th(c-f)} (°C/W)
				Typ.	Max.				Max.	Max.	Max.	t _{d(on)} (ns)							
1200 Volt Dual IGBT Modules A-Series																			
CM100DY-24A	1200	100	2500	2.1	3.0	17.5	1.5	0.34	100	70	400	350	3.8	5.0	150	0.186	0.34	0.022	A1
CM150DY-24A	1200	150	2500	2.1	3.0	23.0	2.0	0.45	130	100	450	350	3.8	6.0	150	0.130	0.23	0.022	A1
CM200DY-24A	1200	200	2500	2.1	3.0	35.0	3.0	0.68	130	100	450	350	3.8	9.0	150	0.093	0.17	0.022	A1
CM300DY-24A	1200	300	2500	2.1	3.0	47.0	4.0	0.90	550	180	600	350	3.8	9.0	250	0.066	0.12	0.020	A2
CM400DY-24A	1200	400	2500	2.1	3.0	70.0	6.0	1.40	550	180	600	350	3.8	16.0	250	0.046	0.085	0.020	A3
CM600DY-24A	1200	600	2500	2.1	3.0	94.0	8.0	1.80	660	190	700	350	3.8	19.0	250	0.034	0.062	0.018	A3
1200 Volt Single IGBT Modules A-Series																			
CM400HA-24A	1200	400	2500	2.1	3.0	70	6	1.40	550	180	600	350	3.8	14.7	250	0.053	0.080	0.020	A4
CM600HA-24A	1200	600	2500	2.1	3.0	105	9	2.00	660	190	700	350	3.8	19.0	250	0.034	0.053	0.020	A4
CM600HB-24A	1200	600	2500	2.1	3.0	105	9	2.00	660	190	700	350	3.8	19.0	250	0.034	0.053	0.020	A5
1700 Volt Dual IGBT Modules A-Series																			
CM75DY-34A	1700	75	3500	2.2	2.8	18.5	2.1	0.4	200	150	550	350	3.0	7.5	300	0.160	0.29	0.022	A1
CM100DY-34A	1700	100	3500	2.2	2.8	24.7	2.8	0.53	200	150	550	350	3.0	10	300	0.130	0.21	0.022	A1
CM150DY-34A	1700	150	3500	2.2	2.8	37.0	4.2	0.8	550	190	750	350	3.0	15	450	0.078	0.15	0.020	A2
CM200DY-34A	1700	200	3500	2.2	2.8	49.4	5.6	1.06	550	190	750	350	3.0	20	450	0.063	0.11	0.020	A2
CM300DY-34A	1700	300	3500	2.2	2.8	74.0	8.4	1.6	600	200	850	350	3.0	30	450	0.043	0.072	0.020	A3
CM400DY-34A	1700	400	3500	2.2	2.8	98.8	11.2	2.12	950	300	1000	350	3.0	40	450	0.033	0.055	0.019	A6
1700 Volt Single IGBT Modules A-Series																			
CM500HA-34A	1700	500	3500	2.2	3.0	120	14	2.6	900	500	700	350	3.2	50	650	0.025	0.042	0.020	A4

