



Championing India's Venture into **Semiconductor Products**

With a range of Power Semiconductor chips and Intelligent Power modules to help build the local Power ecosystem and many more products to come

Why iVP : Challenges that we aim to solve

Enabling global solutions and accelerating the localization of India's semiconductor ecosystem.



Supporting local electronics



Catalyzing the localization of India's Semiconductor Ecosystem, while Empowering Global Solutions.

Flexible design and service support



Supporting local electronics OEM/ODMs with India-made products to streamline supply chains—shorter lead times, local inventory, flexible design and service support, and competitive pricing.

Innovation and support for local needs



Innovating to meet local needs and solve local challenges with a collaborative platform of complementary semiconductor ecosystem partners.

Support till MOQ quantities



Supporting production quantities ranging from MOQ (minimum order quantity) to large volumes.

Applications and Products

With a range of Designed and Made in India products, as well as products addressed towards local markets.



Electric Vehicle & Automotive

Trucks/Tractors, Two Wheeler, Three Wheeler and Four Wheeler

- Mosfet
- DC-DC converter
- Gyantrek Battery Disconnect Switch
- Gyantrek 3 phase inverter



Solar / Renewal

High Capacity (Solar Farms) and Low Capacity (Rooftops)

- Mosfet
- DC-DC converter
- Gyantrek Battery Disconnect Switch
- Gyantrek 3 phase inverter



Industrial

Automation and IIoT

- Mosfet
- DC-DC converter
- Gyantrek Battery Disconnect Switch
- Gyantrek 3 phase inverter



Consumer & Communications

Metering and BLDC

- Mosfet
- DC-DC converter
- Gyantrek 3 phase inverter

Mosfet Data Sheet

SL NO	PART NUMBER	DRAIN-SOURCE VOLTAGE [V]	DRAIN CURRENT [A]	RDS(ON) [mΩ]	DRIVE VOLTAGE [V]	PACKAGE
1	VPLMDF318N040TR	40	318	0.9	2.3	LPAK56
2	VPLMDF318N040TR	40	46	8	2.4	PDFN3.3*3.3
3	VPLMDF290N040TR	40	290	1	2.3	PDFN35*6
4	VPLMDF053N060TR	60	53	11	2.5	PDFN3.3*3.3
5	VPLMDF142N060TR	60	142	2.6	2.5	PDFN5*6
6	VPLMDF141N060TR	60	142	3.3	4	PDFN5*6
7	VPLMDF072N060TR	60	72	6.6	2.5	PDFN5*6
8	VPLMDF065N060TR	60	65	11	2.5	PDFN5*6
9	VPLMDF204N060TR	60	204	3	2.5	TO-220-3L
10	VPLMBB153N060TR	60	153	3.9	4	TO-220-3L
11	VPLMDF068N080TR	80	68	7.7	3	PDFN3.3*3.3
12	VPLMDF068N080TR	80	83	7.3	2.5	PDFN5*6
13	VPLMDF068N080TR	80	329	4.2	4	TO-220-3L
14	VPLMDD141N080TR	80	141	3.7	3	TO-220-3L
15	VPLMDD141N080TR	100	49	9.2	3	PDFN3.3*3.3
16	VPLMDF043N100TR	100	43	10	4	PDFN3.3*3.3
17	VPLMDF031N100TR	100	31	16	3	PDFN3.3*3.3
18	VPLMPP411N100TR	100	411	1.68	4	TO-247-3L
19	VPLMTL395N100TR	100	395	1.3	4	TOLL
20	VPLMBB047N100TR	100	47	10.2	3	TO-220F-3L
21	VPLMBB046N100TR	100	46	10.7	4	TO-220F-3L
22	VPLMDD204N100TR	100	204	3.1	4	TO-263-2L
23	VPLMDD245N100TR	100	245	3.2	4	TO-263-2L
24	VPLMDD205N100TR	100	205	4.6	3	TO-263-2L

SL NO	PART NUMBER	DRAIN-SOURCE VOLTAGE [V]	DRAIN CURRENT [A]	RDS(ON) [mΩ]	DRIVE VOLTAGE [V]	PACKAGE
25	VPLMDD122N100TR	100	122	4.6	4	TO-263-2L
26	VPLMDD122N100TR (121)	100	122	6.6	4	TO-263-2L
27	VPLMBB122N100TR	100	122	4.8	3	TO-220-3L
28	VPLMBB122N100TR(1)	100	122	4.8	4	TO-220-3L
29	VPLMBB122N100TR(2)	100	122	6	3	TO-220-3L
30	VPLMBB122N100TR	100	122	6.6	4	TO-220-3L
31	VPLMBB091N100TR	100	91	8.5	3	TO-220-3L
32	VPLMBB072N100TR	100	72	9.3	3	TO-220-3L
33	VPLMBB090N100TR	100	90	10.2	3	TO-220-3L
34	VPLMBB090N100TR	100	64	10.7	3	TO-220-3L
35	VPLMDF140N100TR	100	140	4.2	3	PDFN5*6
36	VPLMDF142N100TR	100	142	4.3	4	PDFN5*6
37	VPLMDF103N100TR	100	103	5.5	3	PDFN5*6
38	VPLMDF098N100TR	100	98	6	4	PDFN5*6
39	VPLMDF086N100TR	100	86	6	3	PDFN5*6
40	VPLMDF091N100TR	100	91	8	3	PDFN5*6
41	VPLMDF087N100TR	100	87	8.6	4	PDFN5*6
42	VPLMDF058N100TR	100	58	9.2	2	PDFN5*6
43	VPLMDF058N100QTR	100	58	9.2	2	PDFN5*6
44	VPLMDF058N100QTR	100	53	9.6	4	PDFN5*6
45	VPLMDF058N100QTR	100	15	4.4	3	PDFN5*6
46	VPLMBB102N100TR	100	102	6.4	3	TO-220-3L

EV Traction Inverter

Target Specifications for EV Traction Inverter

SL NO	PARAMETER	MIN.	TYPE	MAX.	UNITS	CONDITIONS
1	Out Power	--	--	5.0	KW	48V, T _{SINK} = 100° C
2	Operating Voltage	38	48	58	V	--
3	Continuous Current	--	--	250	A	T _{SINK} = 25° C
4	Continuous Current	--	--	150	A	T _{SINK} = 100° C
5	Peak Current*	--	--	350	A	T _{SINK} = 25° C
6	Switching Frequency	--	16	--	KHZ	--
7	Operating Temperature Range	-40	--	125	°C	--
8	Operating Cycles	--	--	TBD	--	--
9	Communication Protocols		CAN		--	--
10	Dimensions		TBA		MM	LXWXH

*Limited by the pulse width, T_{SINK}

EV Traction Inverter Features:

- 5 KW (48V, 150A) • Designed (patented) and Made-in India
- Suitable of ACIM, BLDC, PMSM ; Designed to meet
- Integrated IPM + Controller inside ; OC, OV, UV, OT Protections ; CAN interface.



Bi-Directional Battery Disconnect Switch

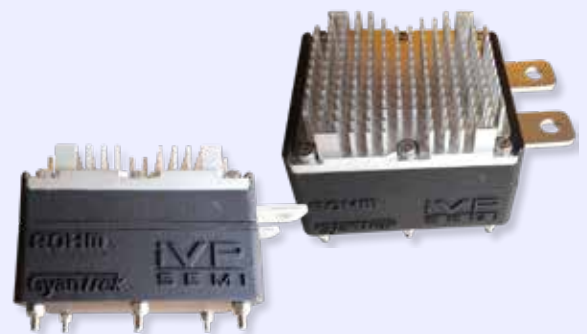
Target Specifications for the Solid-State Battery Charge / Discharge Switch

SL NO	PARAMETER	MIN.	TYPE	MAX.	UNITS	CONDITIONS
1	Operating Voltage	--	--	100	V	--
2	Continuous Currnt	--	--	500	A	$T_{SINK} = 25^{\circ} C$
3	Continuous Current	--	--	300	A	$T_{SINK} = 100^{\circ} C$
4	Peak Current*	--	--	1200	A	$T_{SINK} = 25^{\circ} C$
5	Precharge Current	3.8	4.8	5.8	A	$T_{SINK} = 25^{\circ} C$
6	Recharge Time	--	--	--	SEC	Depends on BMS Command
7	Turn-ON delay time	--	TBD	μs	$^{\circ}C$	$V_{BAT} = 48 V T_{SINK} = 25^{\circ} C$
8	Turn-ON time	--	TBD	μs	--	$V_{BAT} = 48 V T_{SINK} = 25^{\circ} C$
9	Turn-OFF delay time	--	TBD	μs	--	$V_{BAT} = 48 V T_{SINK} = 25^{\circ} C$
10	Turn-OFF time	--	TBD	μs	MM	$V_{BAT} = 48 V T_{SINK} = 25^{\circ} C$
11	Operating Temperature Range	-40	--	125	$^{\circ}C$	--
12	Operating Cycles	--	--	TBD	--	--
13	Communication Protocols		CAN		--	--
			LIN		--	--
			RS 485		--	--
14	Dimensions	L:123	W:84	H:61	MM	--

*Limited by the pulse width, T_{SINK}

Bi-Directional Battery Disconnect Switch Features:

- 100V, 300A Solid-State Relay
- Designed (patented) and Made-in India
- Integrated Power + Controller ; CAN, LIN, RS485 interface.
- Suitable for EV, CV, PV, Industrial Applications.



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Global Solutions

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