

## DRIVE TRANSFORMERS

Switched power semiconductors, in particular IGBTs and MOSFETs, are largely responsible for the progresses in modern power electronics. However, bipolar transistors and GTOs are still in use.

Increasing switching frequencies, increasing reverse voltages and increasing power capability of semiconductor switches have effects on the driving circuits as well as on the power supply of the driving electronics close to the gate.

VAC drive transformers with cores made of the amorphous alloy VITROVAC and the nanocrystalline alloy VITROPERM meet a number of demands:

- low coupling capacitances and thus high interference immunity, i.e. no unwanted tripping of the semiconductors
- low leakage inductances and thus steep control impulses that keep their shape
- small sizes while retaining high isolating voltages
- no On and OFF switching delay
- transmission of high instantaneous power
- wide ambient temperature range (e. g. - 40°C to +85°C)
- Compliance with national and international standards, e.g. VDE 0160, EN 50178, EN 60950, reinforced isolation

## Drive Transformers

VAC-product	Assembly	ü	∫ U <sub>dt</sub>	L <sub>P</sub>	L <sub>S</sub>	C <sub>k</sub>	U <sub>P</sub>	U <sub>is</sub>	Dimensions		
									L	B	H
			μVs	mH	μH	pF	kV <sub>eff</sub>	kV <sub>eff</sub>	mm	mm	mm
<a href="#">T60403-A4021-X081</a>	PTH	1:1.125	20	0.07	15.5	5	2.5	0.5	12.5	14	10
<a href="#">T60403-F4021-X099</a>	PTH	1:1.4:1.4	50	0.17	3	3	4.5	0.7	14	12.5	10
<a href="#">T60403-F4021-X116</a>	PTH	1:1:1	100	1	12	3	4.5	0.7	14	12.5	10
<a href="#">T60403-A4025-X062</a>	PTH	1:1.2	20	0.5	6	6	3.1	0.5	13.2	16.6	10
<a href="#">T60403-D4097-X047</a>	PTH	1:1:1	260	3	30	10	3.1	0.8	14.8	16.6	13.5
<a href="#">T60403-D4097-X050</a>	PTH	1:1	280	5.2	30	15	3.1	0.38	14.8	16.6	13.5
<a href="#">T60403-D4097-X055</a>	PTH	1:1:1	200	6.5	0.3	33	3.1	0.38	14.8	16.6	13.5
<a href="#">T60403-D4097-X058</a>	PTH	1:1:1	260	11	0.35	38	3.1	0.38	14.8	16.6	13.5
<a href="#">T60403-D4097-X064</a>	PTH	1:1.5:1.5	200	2	12	9	3.1	0.38	14.8	16.6	13.5
<a href="#">T60403-D4097-X069</a>	PTH	2:1	200	12	31	5	3.1	0.38	14.8	16.6	13.5
<a href="#">T60403-F4097-X070</a>	PTH	1.5:1	150	1.215	10	25	3.1	0.9	14.8	16.6	13.5
<a href="#">T60403-D4097-X071</a>	PTH	1:2:2	150	0.37	0.3	90	3.1	0.38	14.8	16.6	13.5
<a href="#">T60403-D4099-X005</a>	PTH	1:1:1	150	2.7	0.3	25	3.1	0.38	16.6	14.8	13.5
<a href="#">T60403-D4099-X006</a>	PTH	1:1:1:1	125	2.4	0.25	28	3.1	0.38	16.6	14.8	13.5
<a href="#">T60403-D4185-X006</a>	PTH	1:1:1	1000	6	1	80	4.5	0.75	27.5	27.6	20
<a href="#">T60403-D4185-X034</a>	PTH	2:1	500	6	4	40	5	1.2	27.5	27.6	20
<a href="#">T60403-F4185-X040</a>	PTH	1:1:1	520	5.5	2	100	5	0.6	27.5	27.6	20
<a href="#">T60403-D4215-X016</a>	PTH	3:1:1	310	19	25	16	3.1	0.38	21	21	13.5
<a href="#">T60403-D4215-X020</a>	PTH	1:1:1:1	200	0.3	0.25	50	3.1	0.38	21	21	13.5
<a href="#">T60403-D4225-X008</a>	PTH	1:1	390	0.8	12	15	6	2	32	32	20
<a href="#">T60403-D4615-X004</a>	PTH	1:1:1	480	3.2	0.9	60	4.5	0.5	21	21	13.5
<a href="#">T60403-D4615-X007</a>	PTH	1:1:1:1	320	1.7	1	100	4.5	0.5	21	21	13.5
<a href="#">T60403-D4721-X002</a>	PTH	1:1	500	3.6	250	5.5	3.1	0.5	17	17.8	13.5
<a href="#">T60403-D4721-X004</a>	PTH	1:1:1	250	0.85	28	6	3.6	0.75	17	17.8	13.5
<a href="#">T60403-D4721-X103</a>	PTH	1:2:2	250	0.85	50	7	3.6	0.5	17	17.8	13.5
<a href="#">T60403-D5032-X028</a>	SMD	1:1:1	25	0.5	0.3	50	0.5	0.1	13.2	14	9
<a href="#">T60403-F5032-X030</a>	SMD	1:1.4:1.4	50	0.19	2	3	4.5	0.5	13.2	16.6	10
<a href="#">T60403-F5032-X045</a>	SMD	1.3:1:1	40	0.47	6	3	3.1	1	13.2	14	9

## Additional Drive Transformers

VAC-product	Assembly	ü	U <sub>dt</sub>	L <sub>P</sub>	L <sub>S</sub>	C <sub>k</sub>	U <sub>P</sub>	U <sub>is</sub>	Dimensions		
									L	B	H
			μVs	mH	μH	pF	kV <sub>eff</sub>	kV <sub>eff</sub>	mm	mm	mm
<a href="#">T60403-A4021-X033</a>	PTH	1:1.4:1.4	8.5	0.02	4	5	3.1	0.5	14	12.5	10
<a href="#">T60403-A4021-X034</a>	PTH	1:1:1	7.5	0.015	3	5	3.1	0.5	12.5	14	10
<a href="#">T60403-A4021-X082</a>	PTH	1:1.68	12	0.45	8	10	2.5	0.9	12.5	14	10
<a href="#">T60403-A4021-X084</a>	PTH	1:2	12	0.45	10	10	2.5	0.9	14	12.5	10
<a href="#">T60403-F4021-X088</a>	PTH	1:1.3:1.3	15	0.25	0.2	15	5	0.48	21	21	13.5
<a href="#">T60403-A4021-X094</a>	PTH	1:1:1	80	176	0.5	40	1.5	0.4	14	12.5	10
<a href="#">T60403-F4021-X125</a>	PTH	1:3.5	7.5	0.006	7	7	3.1	0.8	14	12.5	10
<a href="#">T60403-A4025-X046</a>	PTH	1:1:1	7.5	0.015	3	5	3.1	0.5	23.3	16.1	25.4
<a href="#">T60403-A4025-X060</a>	PTH	1:1.2:1.2	15	0.3	0.4	15	3.1	0.38	14	9	15
<a href="#">T60403-A4025-X061</a>	PTH	1:1.2	12	176	3.5	5	3.1	0.5	14	9	15
<a href="#">T60403-D4096-X009</a>	PTH	1/1:1/1	40	0.9	10	7	5	0.75	14.8	16.6	13.5
<a href="#">T60403-D4097-X024</a>	PTH	2:1	200	15	18	15	3.1	0.38	14.8	16.6	13.5
<a href="#">T60403-D4097-X051</a>	PTH	1:1	100	1.7	0.3	20	3.1	0.7	14.8	16.6	13.5
<a href="#">T60403-D4097-X052</a>	PTH	1:1	260	11	0.45	37	3.1	0.5	14.8	16.6	13.5
<a href="#">T60403-D4097-X054</a>	PTH	1:1:1	100	1	0.3	30	3.1	0.38	14.8	16.6	13.5
<a href="#">T60403-D4097-X059</a>	PTH	1:1:1	50	0.6	0.25	27	3.1	0.38	14.8	16.6	13.5
<a href="#">T60403-F4097-X062</a>	PTH	1:1.65/1.65	16	0.06	0.6	6	6	2	14.8	16.6	13.5
<a href="#">T60403-D4097-X063</a>	PTH	1:1:1	260	10	0.5	8	3.1	0.38	14.8	16.6	13.5
<a href="#">T60403-D4097-X066</a>	PTH	1:1:1	200	2.3	0.7	80	3.1	0.38	14.8	16.6	13.5
<a href="#">T60403-D4099-X001</a>	PTH	1:1:1	150	2	0.4	35	4.5	0.5	27.5	27.6	20
<a href="#">T60403-F4099-X007</a>	PTH	1:1:1/1	98	0.4	250	4	3.3	0.75	12.5	16.6	13.5
<a href="#">T60403-D4185-X002</a>	PTH	1:1:1	1000	5	2	110	4.5	0.75	27.5	27.6	20
<a href="#">T60403-D4185-X007</a>	PTH	1:1	1000	5.3	1.2	120	4.5	0.5	14	12.5	10
<a href="#">T60403-D4185-X011</a>	PTH	1:1:1:1	500	1.5	0.35	80	3.1	0.38	27.5	28	20
<a href="#">T60403-D4185-X014</a>	PTH	1:1:1	500	5	0.8	60	4.5	0.5	27.5	28	20
<a href="#">T60403-F4185-X016</a>	PTH	3.1:1:1	800	8.5	70	11	4	1	27.5	27.6	20
<a href="#">T60403-F4185-X025</a>	PTH	1:1.3:1.3	200	0.7	4	7	7.5	2	27.5	27.6	20
<a href="#">T60403-D4215-X014</a>	PTH	1:1:1	170	1.3	0.5	30	4	0.5	20	20	14.5
<a href="#">T60403-D4215-X015</a>	PTH	1:1:1	500	6	1.5	140	3.1	0.38	21	21	13.5
<a href="#">T60403-D4215-X022</a>	PTH	1:1:1	500	5	0.9	110	4	0.38	21	21	13.5

VAC-product	Assembly	ü	∫ U <sub>dt</sub>	L <sub>P</sub>	L <sub>S</sub>	C <sub>k</sub>	U <sub>P</sub>	U <sub>is</sub>	Dimensions		
									L	B	H
			μVs	mH	μH	pF	kV <sub>eff</sub>	kV <sub>eff</sub>	mm	mm	mm
<a href="#">T60403-F4215-X025</a>	PTH	1:1.4:1.4	200	0.9	5	5	4	0.5	21	21	13.5
<a href="#">T60403-D4215-X030</a>	PTH	1:1:1	500	5	0.8	63	3.5	0.6	21	21	13.5
<a href="#">T60403-A4329-X008</a>	PTH	1:1:1	90	3	0.8	40	4.2	0.29	17.8	12.8	21
<a href="#">T60403-D4615-X010</a>	PTH	1:1.4:1.4	280	1.7	1	100	4	0.4	21	21	13.5
<a href="#">T60403-D4615-X019</a>	PTH	1:1	500	4	1	50	4.5	0.75	17	17.8	13.5
<a href="#">T60403-D4615-X022</a>	PTH	1:1:1	250	0.85	0.6	20	5	1	21	21	13.5
<a href="#">T60403-D4615-X053</a>	PTH	1:1:1	250	1.7	1	35	5	0.5	22.5	22.5	16.5
<a href="#">T60403-D4615-X054</a>	PTH	1:1.2:1.2	250	1.7	1	35	5	0.5	22.5	22.5	16.5
<a href="#">T60403-D4616-X007</a>	PTH	1:1:1	200	2.2	0.25	26	3.1	0.66	22.5	22.5	15
<a href="#">T60403-D4721-X001</a>	PTH	1:1:1	250	0.85	28	6	3.6	0.5	17	17.8	13.5
<a href="#">T60403-D4721-X003</a>	PTH	1:1	250	0.85	70	4.7	4	0.5	17	17.8	13.5
<a href="#">T60403-D4721-X005</a>	PTH	2:1	250	3.4	75	5	3.1	0.5	17	17.8	13.5
<a href="#">T60403-D4721-X006</a>	PTH	1:1:1	500	3.1	110	6.5	3.1	0.5	17	17.8	13.5
<a href="#">T60403-D4721-X007</a>	PTH	3:1:1	250	7.6	68	5.5	3.1	0.5	17	17.8	13.5
<a href="#">T60403-D4721-X012</a>	PTH	1:1	250	1.4	4	110	2.5	0.22	17	17.8	13.5
<a href="#">T60403-D4721-X037</a>	PTH	2:1	250	3.97	75	8	4	0.6	17	17.8	13.5
<a href="#">T60403-D4721-X042</a>	PTH	1:1	250	0.85	70	4.7	4	0.5	17	17.8	13.5
<a href="#">T60403-D4721-X048</a>	PTH	1:1	600	5	360	10	4	0.5	17	17.8	13.5
<a href="#">T60403-D4721-X063</a>	PTH	2.3:1	200	4.5	50	7	3.1	1	17	17.8	13.5
<a href="#">T60403-D4721-X083</a>	PTH	1:2:2	200	0.22	3.5	55	0.5	0.1	17	17.8	13.5
<a href="#">T60403-D4721-X088</a>	PTH	1:1	250	0.85	60	6	4	0.5	17	17.8	13.5
<a href="#">T60403-D4721-X099</a>	PTH	1:1	600	5	360	10	4	0.5	27.5	27.6	20
<a href="#">T60403-D4721-X106</a>	PTH	1:1	500	3.6	290	6	3.1	0.5	17	17.8	13.5
<a href="#">T60403-F4721-X107</a>	PTH	1:1.2:1.2	75	0.2	6	5	2	0.4	17	17.8	13.5
<a href="#">T60403-D4731-X007</a>	PTH	2:1	1000	2.5	6	25	4	0.6	24.5	22	16.5
<a href="#">T60403-D4741-X036</a>	PTH	2:1	1500	12	4.5	25	4	0.75	27.3	27	21
<a href="#">T60403-D4750-X012</a>	PTH	2:1	5000	50	25	30	5	0.75	35.3	34	25
<a href="#">T60403-D4802-X087</a>	PTH	4:1	2500	3	18	58	16	8.35	61	74	90
<a href="#">T60403-A5024-X012</a>	SMD	4.5:1	20	0.42	60	5	1.5	0.22	10	13.9	7.1
<a href="#">T60403-F5032-X073</a>	SMD	1:1.2	100	1	10	6	3.1	0.5	14	9	15
<a href="#">T60403-F5032-X083</a>	SMD	1:1:1.62	37.5	0.4	15	10	2.5	0.7	13.2	14	9