



CA42 Radial Epoxy Dipped Tantalum Capacitor

Operating Temperature Range:	-55°C ~ +125°C; >85°C (with rated voltage derating)
DC Leakage at 25°C:	$I \leq 0.01C_U$ or 0.5A (Choose the greater one)
Capacitance Range:	0.1μF ~ 1000μF
Voltage Range:	4V, 6.3V, 10V, 16V, 25V, 35V, 40V, 50V
Capacitance Tolerance:	K: ±10%; M: ±20% (Standard Tolerance)
Pitch Size:	2.54mm & 5.08mm
Package Type:	Bulk; Ammo Taped Package



CL21 Metallized Polyester Capacitors

SPECIFICATIONS	-40°C ~ +85°C
Operating Temperature	100VDC, 250VDC, 400VDC, 630VDC
Rated Voltage:	0.01 ~ 10uF
Capacitance Range:	±5% (on request), ±10% (Standard)
Capacitance Tolerance:	$C \leq 0.33\mu F, IR > 30000M\Omega$ at 100VDC 60SEC
Insulation Resistance:	$C > 0.33\mu F, IR \geq 10000S(M/\mu F)$ at 100VDC 60SEC
Dissipation Factor	$\leq 0.01$ (at 1KHz)



CA45 Chip Tantalum Capacitors

Operating Temperature Range:	-55°C ~ +125°C; >85°C (with rated voltage derating)
DC Leakage at 25°C:	$I \leq 0.01C_U$ or 0.5A (Choose the greater one)
Capacitance Range:	0.1uF ~ 1000uF
Voltage Range:	4V, 6.3V, 10V, 16V, 20V, 25V, 35V, 40V, 50V, 63V
Capacitance Tolerance:	K: ±10%; M: ±20% (Standard Tolerance)
Pitch Size:	A, B, C, D, E case
Package Type:	Tape & Reel Case
SPQ/MPQ:	A & B case: 2000pcs per reel; C & D case: 500pcs per reel; E & V case: 400pcs per reel;



CT4 Radial Multilayer Ceramic Capacitor (Mono Capacitor)

	NPO	X7R	Y5V
Operating Temperature	-55°C ~ +125°C	-55°C ~ +125°C	-25°C ~ +85°C
Tolerance:	+/-5%	+/-10%	+/-20%
Voltage:	50V 63V 100V; 200V 500V on request		
Capacitance:	0.5pF ~ 22uF		
Lead Space:	2.54mm, 5.08mm		
Shape:	a, b, C1, C2, C3 Shape		
Chip Size:	0805 1206 1210 Chip Inside		
Pitch Size:	2.54mm & 5.08mm		
Package Type:	Bulk; Ammo Taped Package		

**Capacitors Cross Reference**

CL21 Series	KEMET ARCOTRONICS	Wima	VishayRoederstein	PhilipVishay	Epcos	Pilkor	Iskra	Panasonic		
Metallized Polyester Capacitor			MKT 468	MKT 368	B32591-32592	PCMT 365-367		ECQV		
				MKT 467	B32593-32594	PCMT 369		ECQE		
CA42 Series	NIC Serie	AVX	Kemet	Nemco	Mallory	Panasonic	Sprague	NFC	Nichicon	Matsuo
Radial Epoxy Dipped Tantalum Capacitor	NDTM	TAP	T350-T390	TB PDT	TDC TDL	ECSF	196D/199D/489 D/ETPW/ETQW	ND/NP	S89	202/204
CA45 Series	NIC Serie	AVX	Kemet	KOA/Hitachi	Matsuo	NEC	Nichicon	Panasonic	Vishay	China P/N
Tantalum Chip Capacitors General Purpose A,B,C,D,E,V	NTC-T	TAJ	T491	TMC	265	NR	F93	TE	293D	CA45
				TMC-M	267			ECST		
CT4 Series	NIC Series	AVX (KYOCERA)	Kemet	Mallory	Panasonic	Phillips	Vishay	Murata	Nippon chemi-con	
Radial Lead Multilayer Ceramic Capacitors	NCM	SR Skycap	C315-C350	M	ECU-S	K, CN, CW, CZ	K (Mono-Kap)	RPE	THD serie	

**Capacitors Part Number System**

CL21	F	014	K	0250	0100	B	000	R
<b>Type</b>	<b>Material Code</b>	<b>Capacitance Code</b>	<b>Capacitance Tolerance</b>	<b>Rated Voltage</b>	<b>Size Code for Pitch (THT)</b>	<b>Package Code</b>	<b>Leg Length</b>	<b>Inhouse Code</b>
CL21	F: Film (CL21)	pF Code: 1st two digits	C: +/-0.25pF	0004: 4VDC	0025: 2.54mm pitch	B: Bulk	000: Standard Leg	If necessary
CA42	T: Tantalum (CA42/45)	represent significant figures	D: +/-0.5pF	0010: 10VDC	0050: 5.08mm pitch	A: Ammo Taped	035: cut to 3.5mm	
CA45	N: NPO	3rd digit represents multiplier (number of zeros to follow)	F: +/-1%	0035: 35VDC	0075: 7.5mm pitch	R: Tape & Reel	040: cut to 4mm	
	S: SL		G: +/-2%	0100: 100VDC	0100: 10mm pitch		060: cut to 6mm	
	B: X7R	104 = 100,000pF	H: +/-2.5%	0630: 630VDC	0275: 27.5mm pitch			
	E: Z5U	100 = 10pF	J: +/-5%	1000: 1KVDC				
	F: Y5V	470 = 47pF	K: +/-10%	1600: 1600VDC	<b>Case Size for SMT Type</b>			
	U: Y5U		L: +/-15%	A275: 275VAC	000A: A case			
	P: Y5P		M: +/-20%	A300: 300VAC	000B: B case			
	V: Z5V		Z: +/-20%		0805: 0805 Case			
					1206: 1206 Case			



**ISO 9001: 2008 & ISO 14001: 2004**  
**Discrete Semiconductors & Capacitors**



Topdiode Manufacturing Company is a leading manufacturer and supplier of a wide range discrete components and capacitors in China. Discrete Semiconductors include Rectifier Diode, Switching Diode, Zener Diode, TVS Diode, Schottky Diode, Bi-directional Trigger Diode, Fast Recovery Diode, Bridge Rectifier THT & SMT, Small Signal Transistors; and capacitors range includes CA42 Dipped Tantalum Capacitors, CA45 Chip Tantalum Capacitors, CL21 Metallized Polymer Capacitors etc. Topdiode serves the consumer electronics, computing, communications, and industrial markets.

**The Company's**

- ◆ Company headquarters, manufacturing facilities, design & engineering center are located in Hunan Province and Shandong Province since 1996.
- ◆ Sales office & warehouse center are located in Dongguan China.
- ◆ Own around 750 employees and 65 professional technical personnel; production capacity around 6 billion pcs in 2012
- ◆ The Company's manufacturing facilities have achieved the Quality Awards of ISO-9001:2008 certification.
- ◆ Product focus is on high-growth end-user equipment markets such as TV/Satellite set-top boxes, portable DVD players, monitors, speakers, energy-saving lamps, microwave ovens, printers, datacom devices, ADSL modems, power supplies, power meters, medical devices, PCs and notebooks, flat panel displays, digital cameras, mobile handsets, AC-to-DC and DC-to-DC conversion, Wireless 802.11 LAN access points, brushless DC motor fans, small household electrical appliances and other fields.
- ◆ Topdiode supplies components to military and industrial market both.
- ◆ Trade reference for example: Linear, Jabil, Philips (lighting), DELPHI, Media

**Through-hole Bridge Rectifier (THT type)**

		Peak Repetitive Reverse Voltage						
		50V	100V	200V	400V	600V	800V	1000V
Average Forward Current	0.5A			MB2M	MB4M	MB6M	MB8M	MB10M
	1.0A	DB101	DB102	DB103	DB104	DB105	DB106	DB107
	1.5A	DB151	DB152	DB153	DB154	DB155	DB156	DB157
	2.0A	GBL201	GBL202	GBL203	GBL204	GBL205	GBL206	GBL207
	3.0A	2W005	2W01	2W02	2W04	2W06	2W08	2W10
	4.0A	KBP2005	KBP201	KBP202	KBP204	KBP206	KBP208	KBP210
	6.0A	KBP3005	KBP301	KBP302	KBP304	KBP306	KBP308	KBP310
	8.0A	GBL4005	GBL401	GBL402	GBL404	GBL406	GBL408	GBL410
	10A	KBJ4005	KBJ401	KBJ402	KBJ404	KBJ406	KBJ408	KBJ410
	25A	KBL4005	KBL401	KBL402	KBL404	KBL406	KBL408	KBL410
	35A	GBU4005	GBU401	GBU402	GBU404	GBU406	GBU408	GBU410
		KBJ6005	KBJ601	KBJ602	KBJ604	KBJ606	KBJ608	KBJ610
		KBL6005	KBL601	KBL602	KBL604	KBL606	KBL608	KBL610
		GBU6005	GBU601	GBU602	GBU604	GBU606	GBU608	GBU610
		GBU8005	GBU801	GBU802	GBU804	GBU806	GBU808	GBU810
		KBJ8005	KBJ801	KBJ802	KBJ804	KBJ806	KBJ808	KBJ810
		GBU10005	GBU1001	GBU1002	GBU1004	GBU1006	GBU1008	GBU1010
		KBJ10005	KBJ1001	KBJ1002	KBJ1004	KBJ1006	KBJ1008	KBJ1010
		KBPC25005	KBPC2501	KBPC2502	KBPC2504	KBPC2506	KBPC2508	KBPC2510
		KBPC35005	KBPC3501	KBPC3502	KBPC3504	KBPC3506	KBPC3508	KBPC3510

**Surface Mount Bridge Rectifier (SMT type)**

		Peak Repetitive Reverse Voltage						
		50V	100V	200V	400V	600V	800V	1000V
Average Forward Current	0.5A			MB2S	MB4S	MB6S	MB8S	MB10S
	0.8A			ABS2	ABS4	ABS6	ABS8	ABS10
	1.0A	DB101S	DB102S	DB103S	DB104S	DB105S	DB106S	DB107S
	1.5A	DB151S	DB152S	DB153S	DB154S	DB155S	DB156S	DB157S

**Small Signal Transistors**

P/N	Package (Size)
<b>PNP Silicon Transistors</b>	
BC807-BC808	SOT-23
BC856 BC857 BC858 BC859 BC860	SOT-23
MMBT3906	SOT-23
MMBT8550C/D	SOT-23
<b>NPN Silicon Transistors</b>	
BC817-BC818	SOT-23
BC846 BC847 BC848 BC849 BC850	SOT-23
MMBT3904	SOT-23
MMBT8050C/D	SOT-23

**Zener Diode (THT & SMT)**

Power dissipation	P/N	Voltage
500mW, 1/2W	BZX55C2V7-47V DO-35	2.7V-47V
500mW, 1/2W	BZV55C2V4-47V LL-34	2.4V-47V
1000mW, 1W	1N4729A-1N4756A DO-41	3.3V-100V
500mW	DL4728A-DL4764A LL-41	3.3V-100V
0.35W	BZX84C3V0-47V	3V0-47V

**Transient Voltage Suppression Diode (TVS Diode)**

Through Hole TVS Diode	Package	Voltage Range
P4KE6.8A-440A	DO-41	6.8V -- 440V
P6KE6.8A-440A	DO-15	6.8V -- 440V
1.5KE6.8A-1.5KE440A	DO-201AE	6.8V -- 440V
P4KE6.8CA-440CA	DO-41	6.8V -- 440V
P6KE6.8CA-440CA	DO-15	6.8V -- 440V
1.5KE6.8CA-1.5KE440CA	DO-201AE	6.8V -- 440V
<b>Transient Voltage Suppression Diode (SMT Type)</b>		
SMT TVS Diode	Package	Voltage Range
SMAJ5.0A ~ SMAJ170A	SMA	5.0V -- 170V
SMBJ5.0A ~ SMBJ170A	SMB	5.0V -- 170V
SMCJ5.0A ~ SMCJ170A	SMC	5.0V -- 170V

**Switching Diode**

Average Forward Current	Peak Repetitive Reverse Voltage
	100V
200mA	1N4148 DO-35
200mA	LL4148 LL-34
150mA	1N4148W SOD-123
150mA	1N4148WS SOD-323
125mA	1N4148WT SOD-523
200mA	MCL4148 MicroMELF

High Speed Switching Diode	
BAV99	SOT-23
BAV70	SOT-23
BAV19 BAV20 BAV21	DO-35

**Bi-directional Trigger Diode**

P/N	Package	Voltage Range
DB3	DO-35	28V -- 36V
DB4	DO-35	35V -- 45V
LLDB3	SOD-80	28V -- 36V

**General Purpose Rectifier Diode**

		Peak Repetitive Reverse Voltage								
		50V	100V	200V	300V	400V	500V	600V	800V	1000V
Average Forward Current	1.0A	M1	M2	M3	M4	M5	M6	M7		
		S1A	S1B	S1D	S1G	S1J	S1K	S1M		
		1A1	1A2	1A3	1A4	1A5	1A6	1A7		
	1N4001	1N4002	1N4003	1N4004	1N4005	1N4006	1N4007			
	1N4001S	1N4002S	1N4003S	1N4004S	1N4005S	1N4006S	1N4007S			
	LL4001	LL4002	LL4003	LL4004	LL4005	LL4006	LL4007			
	1N5391	1N5392	1N5393	1N5394	1N5395	1N5396	1N5397	1N5398	1N5399	
	GP15A	GP15B	GP15D	GP15G	GP15J	GP15K	GP15M			
	RL151	RL152	RL153	RL154	RL155	RL156	RL157			
	2.0A	RL201	RL202	RL203	RL204	RL205	RL206	RL207		
2.5A	S2A	S2B	S2D	S2G	S2J	S2K	S2M			
	RL251	RL252	RL253	RL254	RL255	RL256	RL257			
	3.0A	1N5400	1N5401	1N5402	1N5403	1N5404	1N5405	1N5406	1N5407	1N5408
5.0A	S3A	S3B	S3D	S3G	S3J	S3K	S3M			
	5A05	5A1	5A2	5A4	5A6	5A8	5A10			
	6.0A	6A05	6A1	6A2	6A4	6A6	6A8	6A10		
10.0A	10A05	10A1	10A2	10A3	10A6	10A8	10A10			

**Fast Recovery Diode**

		Peak Repetitive Reverse Voltage						
		50V	100V	200V	400V	600V	800V	1000V
Average Forward Current	1.0A	1N4933	1N4934	1N4935	1N4936	1N4937		
		FR1A	FR1B	FR1D	FR1G	FR1J	FR1K	FR1M
		RS1A	RS1B	RS1D	RS1G	RS1J	RS1K	RS1M
	US1A	US1B	US1D	US1G	US1J	US1K	US1M	
	FR101	FR102	FR103	FR104	FR105	FR106	FR107	
	1.5A	FR151	FR152	FR153	FR154	FR155	FR156	FR157
	2.0A	FR201	FR202	FR203	FR204	FR205	FR206	FR207
	2.5A	FR251	FR252	FR253	FR254	FR255	FR256	FR257
	3.0A	FR301	FR302	FR303	FR304	FR305	FR306	FR307
	5.0A	FR501	FR502	FR503	FR504	FR505	FR506	FR507
6.0A	FR601	FR602	FR603	FR604	FR605	FR606	FR607	

**Schottky Diodes (THT Type)**

		Peak Repetitive Reverse Voltage								
		20V	30V	40V	50V	60V	80V	100V	150V	200V
Average Forward Current	1.0A	1N5817	1N5818	1N5819						
		SB120	SB130	SB140	SB150	SB160	SB180	SB1100		
	2.0A	SB220	SB230	SB240	SB250	SB260	SB280	SB2100	SB2150	SB2200
	3.0A	1N5820	1N5821	1N5822						
		SB320	SB330	SB340	SB350	SB360	SB380	SB3100	SB3150	SB3200
5.0A	SB520	SB530	SB540	SB550	SB560	SB580	SB5100	SB5150	SB5200	

**Surface-mount Schottky Diodes SMD**

		Peak Repetitive Reverse Voltage					
		20V	40V	60V	100V	150V	200V
Average Forward Current	1.0A	SS12A	SS14A	SS16A	SS10A		
	2.0A	SS22A	SS24A	SS26A	SS210A	SS215A	
		SS22B	SS24B	SS26B	SS210B	SS215B	
	3.0A	SS32A	SS34A	SS36A	SS310A		
		SS32B	SS34B	SS36B	SS310B	SS315B	
SS32C		SS34C	SS36C	SS310C	SS315C	SS320C	