



ENERGY STORAGE INNOVATOR **STARCAP**

ELECTRIC DOUBLE LAYER CAPACITOR



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ENERGY STORAGE INNOVATOR
KORCHIP
ISO9001 · 14001 / RoHS Compliant

DCS / DCST Series

STARCAP DCS,DCST Series



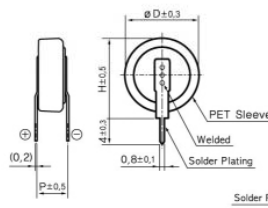
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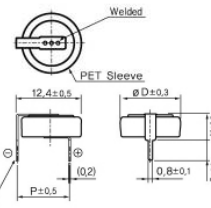
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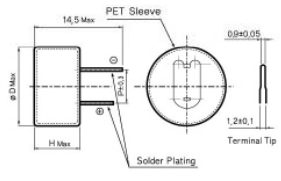
C-TYPE



V-TYPE



H-TYPE



C-TYPE

Part number	Operating voltage (V)	Capacitance (F)	ESR (Ω , @1kHz)	V type (mm)			H type (mm)			C type (mm)		
				ϕD	H	P	ϕD	H	P	ϕD	H	P
DCS 5R5 473	5.5	0.047	≤ 120	11.5	12.5	5.0	11.5	5.5	10.0	13.5	7.0	5.0
DCS 5R5 104		0.10	≤ 75	11.5	12.5	5.0	11.5	5.5	10.0	13.5	7.0	5.0
DCS 5R5 224		0.22	≤ 75	11.5	12.5	5.0	11.5	5.5	10.0	13.5	7.0	5.0
DCS 5R5 334		0.33	≤ 50	11.5	12.5	5.0	11.5	5.5	10.0	13.5	7.0	5.0
DCS 5R5 474		0.47	≤ 50	11.5	12.5	5.0	11.5	5.5	10.0	13.5	7.0	5.0
DCST 3R6 224	3.6	0.22	≤ 75	11.5	12.5	5.0	11.5	5.5	10.0	13.5	7.0	5.0
DCST 3R6 334		0.33	≤ 50	11.5	12.5	5.0	11.5	5.5	10.0	13.5	7.0	5.0

* Auto-insertionable taping type packing available (See DA Series A-Type)

* DCST Series is designed for higher temperature application up to 85°C

DCL / DCLT / DCLH Series

STARCAP DCL, DCLT, DCLH Series

DCL / DCLT



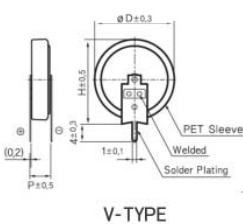
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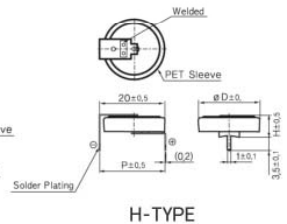
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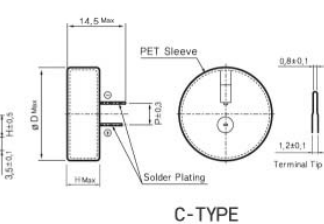
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V-TYPE



H-TYPE

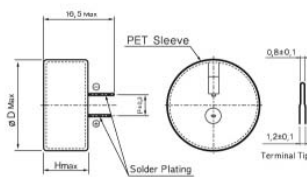


C-TYPE

DCLT



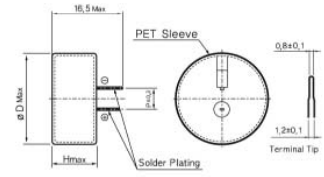
5.5V 1.0F



DCLH



6.3V 1.0F



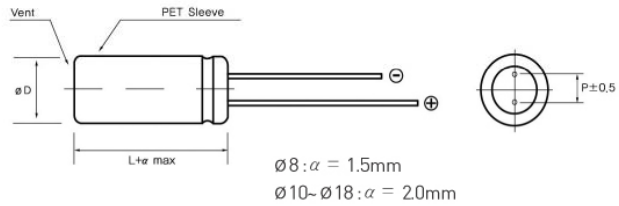
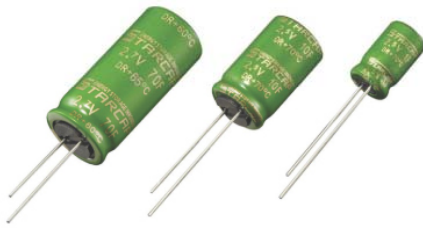
Part number	Operating voltage (V)	Capacitance (F)	ESR (Ω , @1kHz)	V type (mm)			H type (mm)			C type (mm)		
				ϕD	H	P	ϕD	H	P	ϕD	H	P
DCL 5R5 105	5.5	1.0	≤ 30	19.0	19.5	5.0	19.0	6.5	20.0	21.5	7.5	5.0
DCL 5R5 155		1.5	≤ 30	19.0	19.5	5.0	19.0	6.5	20.0	21.5	7.5	5.0
DCLT 3R6 105	3.6	1.0	≤ 30	19.0	19.5	5.0	19.0	6.5	20.0	21.5	7.5	5.0
DCLT 5R5 474	5.5	0.47	≤ 50							21.5	9.5	5.0
DCLT 5R5 684		0.68	≤ 50							21.5	9.5	5.0
DCLT 5R5 105		1.0	≤ 30							21.5	9.5	5.0
DCLH 6R3 474	6.3	0.47	≤ 50							21.5	9.5	5.0
DCLH 6R3 684		0.68	≤ 50							21.5	9.5	5.0
DCLH 6R3 105		1.0	≤ 30							21.5	9.5	5.0

* DCLT Series is designed for higher temperature application up to 85°C

* DCLH Series is designed for higher operational voltage application up to 6.3V

DR / HP Series

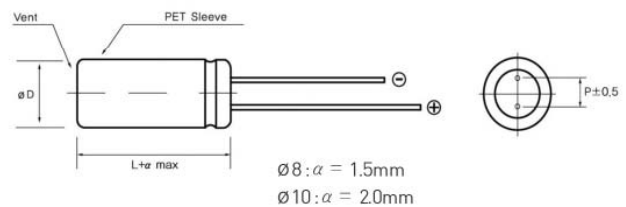
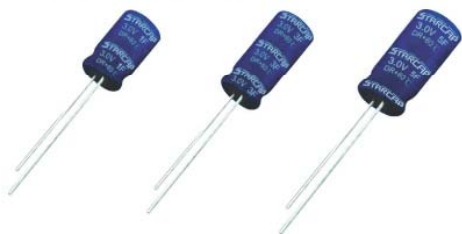
STARCAP DR,HP Series



Part number	Capacitance (F)	ESR (Ω , @1kHz)	Part number	Capacitance (F)	ESR (Ω , @1kHz)	Operating voltage (V)	Operating temperature	$\text{ø} \times \text{L}$ (mm)	F(mm)		
DR 2R3 106	10	≤ 0.060				2.3	-25-60°C	$\text{ø}10 \times 20$	5.0		
DR 2R3 226	22	≤ 0.050						$\text{ø}10 \times 30$	5.0		
DR 2R3 306	30	≤ 0.035						$\text{ø}12.5 \times 25$	5.0		
DR 2R3 506	50	≤ 0.025						$\text{ø}16 \times 25$	7.5		
DR 2R3 706	70	≤ 0.022						$\text{ø}16 \times 35$	7.5		
DR 2R3 127	120	≤ 0.020						$\text{ø}18 \times 40$	7.5		
DR 2R5 105	1	≤ 0.300				2.5	-25-70°C	$\text{ø}8 \times 13$	3.5		
DR 2R5 305	3	≤ 0.150	HP 2R5 155	2	≤ 0.125			$\text{ø}8 \times 20$	3.5		
DR 2R5 335	3.3	≤ 0.150						$\text{ø}8 \times 20$	3.5		
			HP 2R5 205	2	≤ 0.110			$\text{ø}8 \times 25$	3.5		
DR 2R5 505	5	≤ 0.120	HP 2R5 305	3	≤ 0.090			$\text{ø}10 \times 20$	5.0		
DR 2R5 705	7	≤ 0.100	HP 2R5 405	4	≤ 0.080			$\text{ø}10 \times 25$	5.0		
DR 2R5 106	10	≤ 0.070						$\text{ø}10 \times 30$	5.0		
DR 2R5 106S	10	≤ 0.070	HP 2R5 555	6	≤ 0.050			$\text{ø}12.5 \times 20$	5.0		
DR 2R5 156	15	≤ 0.050	HP 2R5 805	8	≤ 0.035			$\text{ø}12.5 \times 25$	5.0		
DR 2R5 256	25	≤ 0.030	HP 2R5 156	15	≤ 0.025			$\text{ø}16 \times 25$	7.5		
DR 2R5 356	35	≤ 0.025	HP 2R5 206	20	≤ 0.020			$\text{ø}16 \times 35$	7.5		
DR 2R5 506	50	≤ 0.021						$\text{ø}18 \times 40$	7.5		
DR 2R5 706	70	≤ 0.020	HP 2R5 306	30	≤ 0.015			$\text{ø}18 \times 40$	7.5		
DR 2R7 105	1	≤ 0.200						2.7	-40-65°C	$\text{ø}8 \times 13$	3.5
DR 2R7 305	3	≤ 0.075	HP 2R7 155	2	≤ 0.050					$\text{ø}8 \times 20$	3.5
DR 2R7 335	3.3	≤ 0.075								$\text{ø}8 \times 20$	3.5
			HP 2R7 205	2	≤ 0.045					$\text{ø}8 \times 25$	3.5
DR 2R7 505	5	≤ 0.060	HP 2R7 305	3	≤ 0.040					$\text{ø}10 \times 20$	5.0
DR 2R7 705	7	≤ 0.050	HP 2R7 405	4	≤ 0.030	$\text{ø}10 \times 25$	5.0				
DR 2R7 106	10	≤ 0.035				$\text{ø}10 \times 30$	5.0				
			HP 2R7 555	6	≤ 0.028	$\text{ø}12.5 \times 20$	5.0				
DR 2R7 156	15	≤ 0.030	HP 2R7 805	8	≤ 0.024	$\text{ø}12.5 \times 25$	5.0				
DR 2R7 256	25	≤ 0.020	HP 2R7 156	15	≤ 0.020	$\text{ø}16 \times 25$	7.5				
DR 2R7 356	35	≤ 0.018	HP 2R7 206	20	≤ 0.018	$\text{ø}16 \times 35$	7.5				
DR 2R7 506	50	≤ 0.017				$\text{ø}18 \times 40$	7.5				
DR 2R7 706	70	≤ 0.016	HP 2R7 306	30	≤ 0.015	$\text{ø}18 \times 40$	7.5				

DR / HP Series 3V

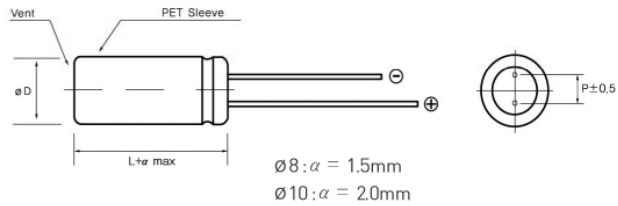
STARCAP DR,HP Series_3V



Part number	Capacitance (F)	ESR (Ω , @1kHz)	Part number	Capacitance (F)	ESR (Ω , @1kHz)	Operating voltage (V)	Operating temperature	$\text{ø} \times \text{L}$ (mm)	F(mm)
DR 3R0 105	1	≤ 0.200				3.0	-40-65°C	$\text{ø}8 \times 13$	3.5
DR 3R0 305	3	≤ 0.075	HP 3R0 155	1.5	≤ 0.050			$\text{ø}8 \times 20$	3.5
			HP 3R0 205	2	≤ 0.045			$\text{ø}8 \times 25$	3.5
DR 3R0 505	5	≤ 0.060	HP 3R0 305	3	≤ 0.040			$\text{ø}10 \times 20$	5.0
DR 3R0 705	7	≤ 0.050	HP 3R0 405	4	≤ 0.030			$\text{ø}10 \times 25$	5.0
DR 3R0 106	10	≤ 0.035						$\text{ø}10 \times 30$	5.0

HP Series Special Products

HP Series Special Products

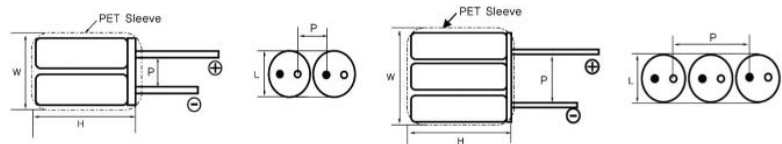


Part number	Operating voltage (V)	Operating temperature	Capacitance (F)	ESR (Ω ,@1kHz)	øDxL (mm)	P (mm)
HP 2R3 255X	2.3	85°C	2.5	≤0.100	ø8 x 25	3.5
HP 2R3 405X			4.0	≤0.080	ø10 x 25	5.0

- * Extended endurance range (2.3V, 85°C, 2000hrs)
- Capacitance Change : Less than 30% of initial value.
- ESR Change : Less than 3 times of initial value.

DRM / HPM Series

STARCAP DRM, HPM Series



Part number	Capacitance (F)	ESR (Ω ,@1kHz)	Part number	Capacitance (F)	ESR (Ω ,@1kHz)	Operating voltage(V)	Operating temperature	WxLxH(mm)	P(mm)
DRMH 5R0 504	0.5	≤ 0.600				5.0	-25-70°C	16.5 x 8.0 x 14.0	5.2/12.5
DRMH 5R0 155	1.5	≤ 0.300	HPMH 5R0 504	0.5	≤ 0.250			16.5 x 8.0 x 21.0	5.2/12.5
			HPMH 5R0 105	1.0	≤ 0.220			16.5 x 8.0 x 26.0	5.2/12.5
DRMH 5R0 255	2.5	≤ 0.240	HPMH 5R0 155	1.5	≤ 0.180			20.5 x 10.0 x 21.0	5.3
DRMH 5R0 355	3.5	≤ 0.200						20.5 x 10.0 x 26.0	5.3
DRMH 5R0 505	5.0	≤ 0.150	HPMH 5R0 205	2.0	≤ 0.150			20.5 x 10.0 x 31.0	5.3
			HPMH 5R0 255	2.5	≤ 0.100			25.5 x 12.5 x 21.0	7.0
DRMH 5R0 755	7.5	≤ 0.110	HPMH 5R0 405	4.0	≤ 0.070		25.5 x 12.5 x 26.0	7.0	
DRML 5R0 504	0.5	≤ 0.400					-40-65°C	16.5 x 8.0 x 14.0	5.2/12.5
DRML 5R0 155	1.5	≤ 0.150	HPML 5R0 504	0.5	≤ 0.100			16.5 x 8.0 x 21.0	5.2/12.5
			HPML 5R0 105	1.0	≤ 0.090			16.5 x 8.0 x 26.0	5.2/12.5
DRML 5R0 255	2.5	≤ 0.120						20.5 x 10.0 x 21.0	5.3
DRML 5R0 355	3.5	≤ 0.100						20.5 x 10.0 x 26.0	5.3
DRML 5R0 505	5.0	≤ 0.080	HPML 5R0 205	2.0	≤ 0.060			20.5 x 10.0 x 31.0	5.3
			HPML 5R0 255	2.5	≤ 0.058	25.5 x 12.5 x 21.0		7.0	
DRML 5R0 755	7.5	≤ 0.060	HPML 5R0 405	4.0	≤ 0.048	25.5 x 12.5 x 26.0	7.0		
DRMH 7R5 504	0.5	≤ 0.900				7.5	-25-70°C	25.0 x 8.0 x 14.0	14.0
DRMH 7R5 105	1.0	≤ 0.450	HPMH 7R5 504	0.5	≤ 0.380			25.0 x 8.0 x 21.0	14.0
			HPMH 7R5 754	0.75	≤ 0.350			25.0 x 8.0 x 26.0	14.0
DRMH 7R5 155	1.5	≤ 0.360						31.0 x 10.0 x 21.0	17.0
DRMH 7R5 205	2.0	≤ 0.300	HPMH 7R5 105	1.0	≤ 0.280			31.0 x 10.0 x 26.0	17.0
DRMH 7R5 305	3.0	≤ 0.250						31.0 x 10.0 x 31.0	17.0
			HPMH 7R5 155	1.5	≤ 0.160			38.5 x 12.5 x 21.0	20.5
DRMH 7R5 505	5.0	≤ 0.150	HPMH 7R5 255	2.5	≤ 0.110		38.5 x 12.5 x 26.0	20.5	
DRML 7R5 504	0.5	≤ 0.600					-40-65°C	25.0 x 8.0 x 14.0	14.0
DRML 7R5 105	1.0	≤ 0.225	HPML 7R5 504	0.5	≤ 0.150			25.0 x 8.0 x 21.0	14.0
			HPML 7R5 754	0.75	≤ 0.140			25.0 x 8.0 x 26.0	14.0
DRML 7R5 155	1.5	≤ 0.180						31.0 x 10.0 x 21.0	17.0
DRML 7R5 205	2.0	≤ 0.150	HPML 7R5 105	1.0	≤ 0.125			31.0 x 10.0 x 26.0	17.0
DRML 7R5 305	3.0	≤ 0.100						31.0 x 10.0 x 31.0	17.0
			HPML 7R5 155	1.5	≤ 0.085	38.5 x 12.5 x 21.0		20.5	
DRML 7R5 505	5.0	≤ 0.090	HPML 7R5 255	2.5	≤ 0.075	38.5 x 12.5 x 26.0	20.5		

SR Series

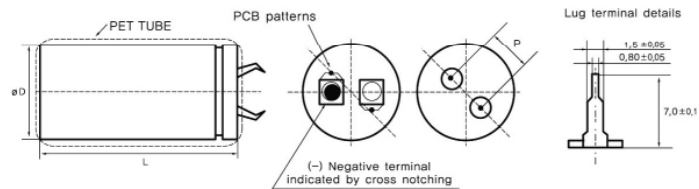
STARCAP SR Series



Part number	Operating voltage (V)	Capacitance (F)	ESR (Ω , @1kHz)	ϕ DxL (mm)	P (mm)
SR 2R5 154	2.5	0.15	≤ 13	$\phi 4.0 \times 7.0$	1.5
SR 2R5 304		0.30	≤ 6	$\phi 5.2 \times 12.0$	2.0
SR 2R5 704		0.70	≤ 3	$\phi 4.0 \times 25.0$	1.5
SR 2R7 154	2.7	0.15	≤ 10	$\phi 4.0 \times 7.0$	1.5
SR 2R7 304		0.30	≤ 5	$\phi 5.2 \times 12.0$	2.0

DL Series

STARCAP DL Series

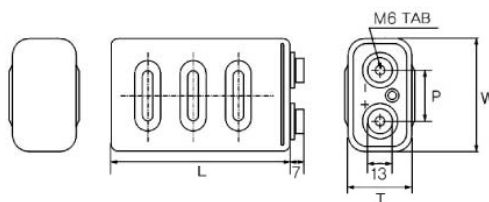


Part number	Operating voltage (V)	Capacitance (F)	ESR		Emax (Wh/kg)	Irated (A)	ϕ DxL (mm)	P (mm)
			($m\Omega$, 1kHz)	($m\Omega$, DC)				
DL 2R5 107	2.5	100	≤ 18	≤ 27	3.72	11	$\phi 22 \times 45$	10
DL 2R5 367		360	≤ 9	≤ 18	4.04	25	$\phi 35 \times 60$	10
DL 2R5 407*		400	≤ 16	≤ 30	4.56	8	$\phi 35 \times 60$	10
DL 2R7 107	2.7	100	≤ 9	≤ 14	4.82	20	$\phi 22 \times 45$	10
DL 2R7 367		360	≤ 5	≤ 8	5.47	45	$\phi 35 \times 60$	10
DL 2R7 407*		400	≤ 12	≤ 25	5.87	15	$\phi 35 \times 60$	10

* DL 2R5 407 and DL 2R7 407 products are suitable for energy back-up application such as solar LED lamps.

DXL Series

STARCAP DXL Series

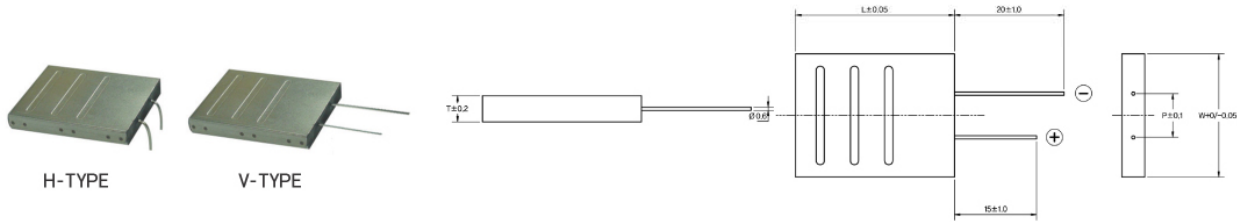


Part number	Operating voltage (V)	Capacitance (F)	ESR		Emax (Wh/kg)	Irated (A)	WxTxL (mm)	P (mm)
			($m\Omega$, @1kHz)	($m\Omega$, DC)				
DXL 2R5 907	2.5	900	≤ 1.3	≤ 2.6	3.40	140	60x34x103	27
DXL 2R5 128		1200	≤ 1.0	≤ 2.0	4.22	220	60x34x103	27
DXL 2R5 308*		3000	≤ 0.7	≤ 1.3	4.74	520	60x50x141	27
DXL 2R7 907	2.7	900	≤ 1.0	≤ 2.0	4.34	180	60x34x103	27
DXL 2R7 128		1200	≤ 0.7	≤ 1.3	5.45	300	60x34x103	27
DXL 2R7 308*		3000	≤ 0.4	≤ 0.7	6.08	690	60x50x141	27

* DXL 2R5 308 and DXL 2R7 308 products are under development and specifications may be changed.

TR Series

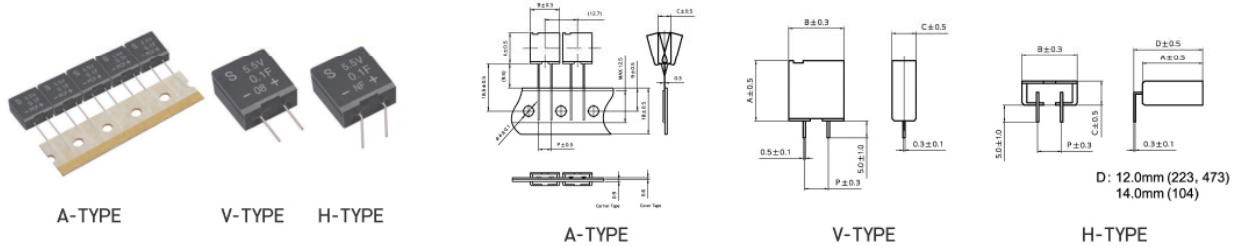
STARCAP TR Series



Part number	Operating voltage (V)	Capacitance (F)	ESR		WxLxTxP(mm)
			(Ω,@1kHz)	(Ω,DC)	
TR 2R5 106	2.5	10	≤0.130	≤0.180	22.5 x 29.0 x 4.8 x 8.0

DA Series

STARCAP DA Series



Part number	Operating voltage (V)	Capacitance (F)	ESR (Ω,@1kHz)	A x B x C x P (mm)
DA 4R5 303	4.5	0.030	≤125	10.5 x 9.5 x 5.0 x 5.0
DA 4R5 563		0.056	≤50	10.5 x 9.5 x 5.0 x 5.0
DA 4R5 124		0.12	≤50	12.5 x 11.5 x 5.0 x 5.0
DA 5R5 223	5.5	0.022	≤150	10.5 x 9.5 x 5.0 x 5.0
DA 5R5 473		0.047	≤60	10.5 x 9.5 x 5.0 x 5.0
DA 5R5 104		0.10	≤60	12.5 x 11.5 x 5.0 x 5.0

STARCAP Modules

STARCAP Module

*Customized STARCAP modules are available.
 *Table below shows some typical module products.

Part number	Operating voltage (V)	Capacitance (F)	Module Formation
MOD 015-166	15	16	DL 2R7 107 (or DL 2R5 107) x 6 in series
MOD 015-606		60	DL 2R7 367 (or DL 2R5 367) x 6 in series
MOD 015-157		150	DXL 2R7 907 (or DXL 2R5 907) x 6 in series
MOD 015-207		200	DXL 2R7 128 (or DXL 2R5 128) x 6 in series
MOD 030-805	30	8	DL 2R7 107 (or DL 2R5 107) x 12 in series
MOD 030-306		30	DL 2R7 367 (or DL 2R5 367) x 12 in series
MOD 030-756		75	DXL 2R7 907 (or DXL 2R5 907) x 12 in series
MOD 030-107		100	DXL 2R7 128 (or DXL 2R5 128) x 12 in series
MOD 050-505	50	5	DL 2R7 107 (or DL 2R5 107) x 20 in series
MOD 050-186		18	DL 2R7 367 (or DL 2R5 367) x 20 in series
MOD 050-456		45	DXL 2R7 907 (or DXL 2R5 907) x 20 in series
MOD 050-606		60	DXL 2R7 128 (or DXL 2R5 128) x 20 in series

General STARCAP Application Matrix

	RTC, Memory or System Back-up Power	Sub Power with other Power Sources	Main Power
Extra Small Size	GSM Phone, Smart phone, MP3P, PMP, GPS, Digital Camera, Digital Photo Frame, Digital Thermometer	Motor Drive, Pulse Power, AMR, LED Flash	Small Motor Drive
	SM / DMS Series 3.3V 0.033F~0.3F	SR Series 2.5V, 2.7V 0.15F~0.7F	SR Series 2.5V, 2.7V 0.15F~0.7F
Small Size	AV, VCR, DVD Drive, Car Audio, Rice Cooker, Printer, Energy Meter		Bike Tail Lamp, Flash Lights, Remote Control
	DA / DCS / DCL Series 5.5V 0.022F~1.5F		DCS / DCL Series 5.5V 0.047F~1.5F
Medium Size	Car Black Box, Cash Register Solid State Drive(SSD), Stand-by Power Reducing	RF Devices, VDSL Modem, Smart Meter(Gas or Water), Relay/Solenoid Starter	Toys, Solar Brick, Solar Road Sign
	DR / DRM / HP / HPM / TR Series 2.5V, 2.7V, 5.0V, 7.5V 0.5F~70F	DR / DRM / HP / HPM / TR Series 2.5V, 2.7V, 5.0V, 7.5V 0.5F~70F	DR / DRM / HP / HPM / TR Series 2.5V, 2.7V, 5.0V, 7.5V 0.5F~70F
Large Size		Copier, Car Idling Stop and Go, Electric Vehicle	Smart Grid Energy Storage, Wind Turbine Pitch Control, UPS, SAG Protector, Truck Cold Cranking
		DL / DXL Series, Modules 2.5V, 2.7V 100F and above	DL / DXL Series, Modules 2.5V, 2.7V 100F and above

※ This Product Catalog is Released on May 1, 2013

All specifications in this catalog are subject to change without notice for market demands and technical improvement.



Green Certification is a national certification system certifying a green technology or a promising green project to clearly stipulate the object and scope of supporting green investment and concentrate on investment as part of the government's "Low Carbon Green Growth" Policy.

ENERGY STORAGE INNOVATOR
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