

**SUBJECT: Large Can TS-U Series Snap-In Aluminum Electrolytic Capacitor will
be discontinued**

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LAST TIME BUY: December 31, 2002

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**SUGGESTED REPLACEMENT: TS-UP Series Snap-In Aluminum Electrolytic
Capacitor**

The TS-UP aluminum electrolytic capacitor is the recommended replacement for TS-U series large can Snap-In series. Generally the TS-UP series is not an exact drop in replacement for the TS-U series. The major differences are:

1. TS-U has endurance of 2000 hrs. at 85C. TS-UP has endurance of 3000 hrs. at 85C.
2. TS-UP has smaller can diameter and/or height for a given capacitance voltage value compared to TS-U series.

Please see the attached part number cross-reference for recommended basic TS-UP part number based on capacitance and voltage.

Please see catalog or the ECG internet (http://www.panasonic.com/industrial/components/pdf/pic_ts-up_series_dne.pdf) for the available can sizes and exact part number information for the TS-UP series.

Please notify your customers of the change.

TS-U Discontinued Part Number And Recommended Cross

(Last shipment Mar/End/2003)

*See Catalog for Available TS-UP Can Sizes

TS-U Series			→	TS-UP Series
Part No.	W.V. (V)	Cap. (uF)		Part No.*
ECES1CU472D	16	4700		ECOS1CP472_ _
ECES1CU682E	16	6800		ECOS1CP682_ _
ECES1CU682J	16	6800		ECOS1CP682_ _
ECES1CU103G	16	10000		ECOS1CP103_ _
ECES1CU103K	16	10000		ECOS1CP103_ _
ECES1CU103Q	16	10000		ECOS1CP103_ _
ECES1CU153H	16	15000		ECOS1CP153_ _
ECES1CU153M	16	15000		ECOS1CP153_ _
ECES1CU153R	16	22000		ECOS1CP153_ _
ECES1CU223N	16	22000		ECOS1CP223_ _
ECES1CU223T	16	22000		ECOS1CP223_ _
ECES1CU223X	16	22000		ECOS1CP223_ _
ECES1CU333U	16	33000		ECOS1CP333_ _
ECES1CU333Y	16	33000		ECOS1CP333_ _
ECES1CU473Z	16	47000		ECOS1CP473_ _
ECES1EU332D	25	3300		ECOS1EP332_ _
ECES1EU472E	25	4700		ECOS1EP472_ _
ECES1EU472J	25	4700		ECOS1EP472_ _
ECES1EU682G	25	6800		ECOS1EP682_ _
ECES1EU682K	25	6800		ECOS1EP682_ _
ECES1EU682Q	25	6800		ECOS1EP682_ _
ECES1EU103H	25	10000		ECOS1EP103_ _
ECES1EU103M	25	10000		ECOS1EP103_ _
ECES1EU103R	25	10000		ECOS1EP103_ _
ECES1EU153N	25	15000		ECOS1EP153_ _
ECES1EU153T	25	15000		ECOS1EP153_ _
ECES1EU153X	25	15000		ECOS1EP153_ _
ECES1EU223U	25	22000		ECOS1EP223_ _
ECES1EU223Y	25	22000		ECOS1EP223_ _
ECES1EU333Z	25	33000		ECOS1EP333_ _
ECES1VU222D	35	2200		ECOS1VP222_ _
ECES1VU332E	35	3300		ECOS1VP332_ _
ECES1VU332J	35	3300		ECOS1VP332_ _
ECES1VU472G	35	4700		ECOS1VP472_ _
ECES1VU472K	35	4700		ECOS1VP472_ _
ECES1VU472Q	35	4700		ECOS1VP472_ _
ECES1VU682H	35	6800		ECOS1VP682_ _
ECES1VU682M	35	6800		ECOS1VP682_ _
ECES1VU682R	35	6800		ECOS1VP682_ _
ECES1VU103N	35	10000		ECOS1VP103_ _
ECES1VU103T	35	10000		ECOS1VP103_ _
ECES1VU103X	35	10000		ECOS1VP103_ _
ECES1VU153U	35	15000		ECOS1VP153_ _
ECES1VU153Y	35	15000		ECOS1VP153_ _
ECES1VU223Z	35	22000		ECOS1VP223_ _

TS-U Series			→	TS-UP Series
Part No.	W.V. (V)	Cap. (uF)		Part No.*
ECES1HU152D	50	1500		ECOS1HP152_ _
ECES1HU222E	50	2200		ECOS1HP222_ _
ECES1HU222J	50	2200		ECOS1HP222_ _
ECES1HU332G	50	3300		ECOS1HP332_ _
ECES1HU332K	50	3300		ECOS1HP332_ _
ECES1HU332Q	50	3300		ECOS1HP332_ _
ECES1HU472H	50	4700		ECOS1HP472_ _
ECES1HU472M	50	4700		ECOS1HP472_ _
ECES1HU472R	50	4700		ECOS1HP472_ _
ECES1HU682N	50	6800		ECOS1HP682_ _
ECES1HU682T	50	6800		ECOS1HP682_ _
ECES1HU682X	50	6800		ECOS1HP682_ _
ECES1HU103U	50	10000		ECOS1HP103_ _
ECES1HU103Y	50	10000		ECOS1HP103_ _
ECES1HU153Z	50	15000		ECOS1HP153_ _
ECES1JU102D	63	1000		ECOS1JP102_ _
ECES1JU152E	63	1500		ECOS1JP152_ _
ECES1JU152J	63	1500		ECOS1JP152_ _
ECES1JU222G	63	2200		ECOS1JP222_ _
ECES1JU222K	63	2200		ECOS1JP222_ _
ECES1JU222Q	63	2200		ECOS1JP222_ _
ECES1JU332H	63	3300		ECOS1JP332_ _
ECES1JU332M	63	3300		ECOS1JP332_ _
ECES1JU332R	63	3300		ECOS1JP332_ _
ECES1JU472N	63	4700		ECOS1JP472_ _
ECES1JU472T	63	4700		ECOS1JP472_ _
ECES1JU472X	63	4700		ECOS1JP472_ _
ECES1JU682U	63	6800		ECOS1JP682_ _
ECES1JU682Y	63	6800		ECOS1JP682_ _
ECES1JU103Z	63	10000		ECOS1JP103_ _
ECES1KU102E	80	1000		ECOS1KP102_ _
ECES1KU102J	80	1000		ECOS1KP102_ _
ECES1KU152G	80	1500		ECOS1KP152_ _
ECES1KU152K	80	1500		ECOS1KP152_ _
ECES1KU152Q	80	1500		ECOS1KP152_ _
ECES1KU222H	80	2200		ECOS1KP222_ _
ECES1KU222M	80	2200		ECOS1KP222_ _
ECES1KU222R	80	2200		ECOS1KP222_ _
ECES1KU332N	80	3300		ECOS1KP332_ _
ECES1KU332T	80	3300		ECOS1KP332_ _
ECES1KU332X	80	3300		ECOS1KP332_ _
ECES1KU472U	80	4700		ECOS1KP472_ _
ECES1KU472Y	80	4700		ECOS1KP472_ _

TS-U Discontinued Part Number And Recommended Cross

(Last shipment Mar/End/2003)

*See Catalog for Available TS-UP Can Sizes

TS-U Series			→	TS-UP Series
Part No.	W.V. (V)	Cap. (uF)		Part No.*
ECES2AU471D	100	470		ECOS2AP471__
ECES2AU681E	100	680		ECOS2AP681__
ECES2AU681J	100	680		ECOS2AP681__
ECES2AU102G	100	1000		ECOS2AP102__
ECES2AU102K	100	1000		ECOS2AP102__
ECES2AU102Q	100	1000		ECOS2AP102__
ECES2AU152H	100	1500		ECOS2AP152__
ECES2AU152M	100	1500		ECOS2AP152__
ECES2AU152R	100	1500		ECOS2AP152__
ECES2AU222N	100	2200		ECOS2AP222__
ECES2AU222T	100	2200		ECOS2AP222__
ECES2AU222X	100	2200		ECOS2AP222__
ECES2AU332U	100	3300		ECOS2AP332__
ECES2AU332Y	100	3300		ECOS2AP332__
ECES2AU472Z	100	4700		ECOS2AP472__
ECES2DU151D	200	150		ECOS2DP151__
ECES2DU221E	200	220		ECOS2DP221__
ECES2DU221J	200	220		ECOS2DP221__
ECES2DU331G	200	330		ECOS2DP331__
ECES2DU331K	200	330		ECOS2DP331__
ECES2DU331Q	200	330		ECOS2DP331__
ECES2DU471H	200	470		ECOS2DP471__
ECES2DU471M	200	470		ECOS2DP471__
ECES2DU471R	200	470		ECOS2DP471__
ECES2DU561N	200	560		ECOS2DP561__
ECES2DU561T	200	560		ECOS2DP561__
ECES2DU561X	200	560		ECOS2DP561__
ECES2DU681N	200	680		ECOS2DP681__
ECES2DU681T	200	680		ECOS2DP681__
ECES2DU681X	200	680		ECOS2DP681__
ECES2DU821U	200	820		ECOS2DP821__
ECES2DU821Y	200	820		ECOS2DP821__
ECES2DU102U	200	1000		ECOS2DP102__
ECES2DU102Y	200	1000		ECOS2DP102__
ECES2DU122Z	200	1200		ECOS2DP122__
ECES2EU121D	250	120		ECOS2EP121__
ECES2EU151E	250	150		ECOS2EP151__
ECES2EU151J	250	150		ECOS2EP151__
ECES2EU221G	250	220		ECOS2EP221__
ECES2EU221K	250	220		ECOS2EP221__
ECES2EU221Q	250	220		ECOS2EP221__
ECES2EU331H	250	330		ECOS2EP331__
ECES2EU331M	250	330		ECOS2EP331__
ECES2EU331R	250	330		ECOS2EP331__

TS-U Series			→	TS-UP Series
Part No.	W.V. (V)	Cap. (uF)		Part No.*
ECES2EU391N	250	390		ECOS2EP391__
ECES2EU391T	250	390		ECOS2EP391__
ECES2EU391X	250	390		ECOS2EP391__
ECES2EU471N	250	470		ECOS2EP471__
ECES2EU471T	250	470		ECOS2EP471__
ECES2EU471X	250	470		ECOS2EP471__
ECES2EU561U	250	560		ECOS2EP561__
ECES2EU561Y	250	560		ECOS2EP561__
ECES2EU681U	250	680		ECOS2EP681__
ECES2EU681Y	250	680		ECOS2EP681__
ECES2EU821Z	250	820		ECOS2EP821__
ECES2EU102Z	250	1000		ECOS2EP102__
ECES2GU470D	400	47		ECOS2GP470__
ECES2GU680E	400	68		ECOS2GP680__
ECES2GU680J	400	68		ECOS2GP680__
ECES2GU101G	400	100		ECOS2GP101__
ECES2GU101K	400	100		ECOS2GP101__
ECES2GU101Q	400	100		ECOS2GP101__
ECES2GU151H	400	150		ECOS2GP151__
ECES2GU151M	400	150		ECOS2GP151__
ECES2GU151R	400	150		ECOS2GP151__
ECES2GU221N	400	220		ECOS2GP221__
ECES2GU221T	400	220		ECOS2GP221__
ECES2GU221X	400	220		ECOS2GP221__
ECES2GU271U	400	270		ECOS2GP271__
ECES2GU271Y	400	270		ECOS2GP271__
ECES2GU391Z	400	390		ECOS2GP391__
ECES2WU330D	450	33		ECOS2WP330__
ECES2WU331Z	450	33		ECOS2WP331__
ECES2WU470E	450	47		ECOS2WP470__
ECES2WU470J	450	47		ECOS2WP470__
ECES2WU680G	450	68		ECOS2WP680__
ECES2WU680K	450	68		ECOS2WP680__
ECES2WU680Q	450	68		ECOS2WP680__
ECES2WU101M	450	100		ECOS2WP101__
ECES2WU101R	450	100		ECOS2WP101__
ECES2WU151N	450	150		ECOS2WP151__
ECES2WU151T	450	150		ECOS2WP151__
ECES2WU151X	450	150		ECOS2WP151__
ECES2WU221U	450	220		ECOS2WP221__
ECES2WU221Y	450	220		ECOS2WP221__