

Report date: 03.04.2013 Software version: 1.0.2 Data version: 18.01.2013

72.5

68.5

Lifetime Calculation for RENATA Batteries

Project: Timer for shutter controls

considering pulse current peak at room temperature:

considering pulse current peak at min. temperature of 0 °C:

Customer: Jauch

Reference: Life time > 10 Jahre

Battery type: Data source: Nominal capacity: Capacity calculated until cut-off voltage of 2.0V: Maximum recommended continuous discharge current:					CR1632 CR1632.86 125.0 mAh 131.0 mAh 1.500 mA								
							Load profile	Current	Pulse length	Pulses per unit			
							Constant current: Pulse 1:	100 nA 2 mA	1.0	1 / 2005			
							Pulse 1: Pulse 2:	2 mA 1 uA	1 s 8760 h	1 / year 1 / lifetime			
								TUA	676011	i / illetilile		0.0002	mΛ
Average load current:					0.0002	A							
Temperature profile: 365 days @ 25	°C;												
Average ambient temperature:				25.0℃									
Self discharge rate per year at 25.0 °C:					1.4 %								
Self discharge current:					0.202 uA								
					0.202 0								
Pulse current peak:					2 mA								
Minimum temperature at pulse current peak:					0℃								
Maximum internal resistance for pulse current peak:					425 Ohm								
Average calculation at room ter	mperature of 20°	PC:											
hours days				years	%								
Lifetime with average load current and self discharge:			423439	17643	48.3	100.0							
Average calculation at ambient	temperature of	25.0℃:											
•	•		hours	days	years	%							
Lifetime with average load current and self discharge:			355526	14814	40.6	84.0							
considering pulse current peak at room temperature:			347039	14460	39.6	82.0							
considering pulse current peak at min	. temperature of 0 ℃	J:	338398	14100	38.6	79.9							
3 Sigma calculation (worst case	e) at ambient ten	nperature of	25.0°C:										
			hours	days	years	%							
Lifetime with average load current and self discharge:			334626	13943	38.2	79.0							

306994

289965

12791

12082

35.0

33.1

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