

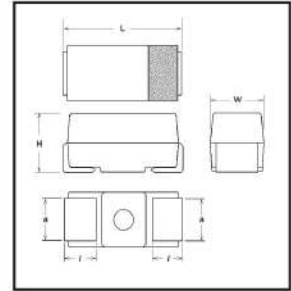
SAH SERIES

INTRODUCTION

SAH Series molded tantalum chip capacitors are specially developed for High Heat Resistance and High Reliability. Ideal for automotive electronics applications.

FEATURES:

- HIGH HEAT RESISTANCE MAKES IT SUITABLE FOR ALL TYPES OF SOLDERING
- HIGH RESISTANCE TO HEAT - 125°C WITH DERATED VOLTAGE FOR 2000 HRS. 150°C STEADY STATE FOR 1000 HRS.
- HIGH RESISTANCE TO MOISTURE. 85°C & 85% RH FOR 500 HRS. 65°C 95% RH WITH RATED VOLTAGE FOR 500 HRS.
- HIGHEST RELIABILITY DUE TO EXCEPTIONALLY LOW FAILURE RATE OF 0.5% PER 1000 HRS.
- COMPONENTS MEET EIAJ RC-3813 & JIS C 5102. REEL PACKING STDS - EIAJ RC-1009B /EIA 481/IEC 286-3.
- EPOXY MOLDED COMPONENTS WITH CONSISTENT DIMENSIONS AND SURFACE FINISH. ENGINEERED FOR AUTOMATIC ONsertION.
- COMPATIBLE WITH ALL POPULAR HIGH SPEED ASSEMBLY MACHINES.



GENERAL SPECIFICATIONS

CAPACITANCE RANGE: 1.0 μ F to 68 μ F. **VOLTAGE RANGE:** 4VDC to 50VDC. **CAPACITANCE TOLERANCE:** \pm 20%(M), \pm 10%(K), (\pm 5%(J) - UPON REQUEST). **TEMPERATURE RANGE** -55 TO +125°C WITH DERATING ABOVE 85°C. **ENVIRONMENTAL CLASSIFICATION:** 55/125/56(IEC68-2). **DISSIPATION FACTOR:** 0.1 μ F TO 1 μ F 4 % MAX, 1.5 μ F TO 68 μ F 6% MAX. **LEAKAGE CURRENT:** NOT MORE THAN 0.005CV μ A or 0.25 μ A WHICHEVER IS GREATER. **FAILURE RATE:** 0.5%PER 1000 HRS.

LIFE TEST DETAILS

CAPACITORS SHALL WITHSTAND RATED DC VOLTAGE APPLIED AT 85°C for 2000 Hrs. or DERATED DC VOLTAGE APPLIED at 125°C for 1000 Hrs. AFTER THE TEST:

1. CAPACITANCE CHANGE SHALL NOT EXCEED \pm 10%OF INITIAL VALUE.
2. DISSIPATION FACTOR SHALL BE WITHIN THE NORMAL SPECIFIED LIMITS.
3. DC LEAKAGE CURRENT SHALL BE WITHIN 125% OF NORMAL LIMIT.
4. NO REMARKABLE CHANGE IN APPEARANCE. MARKINGS TO REMAIN LEGIBLE.

CASE DIMENSIONS IN MILLIMETERS (INCHES)						
CASE	EIA/IEC	L	W	H	I	a
B	3528	3.5 \pm 0.2 (0.138 \pm 0.008)	2.8 \pm 0.2 (0.110 \pm 0.008)	1.9 \pm 0.2 (0.075 \pm 0.008)	0.8 \pm 0.3 (0.031 \pm 0.012)	2.2 \pm 0.1 (0.087 \pm 0.004)
C	6032	6.0 \pm 0.3 (0.236 \pm 0.012)	3.2 \pm 0.3 (0.126 \pm 0.012)	2.5 \pm 0.3 (0.098 \pm 0.012)	1.3 \pm 0.3 (0.051 \pm 0.012)	2.2 \pm 0.1 (0.087 \pm 0.004)
D2	6045	5.8 \pm 0.3 (0.228 \pm 0.012)	4.5 \pm 0.3 (0.177 \pm 0.012)	3.1 \pm 0.3 (0.122 \pm 0.012)	1.3 \pm 0.3 (0.051 \pm 0.012)	3.1 \pm 0.1 (0.122 \pm 0.004)
D	7343	7.3 \pm 0.3 (0.287 \pm 0.012)	4.3 \pm 0.3 (0.170 \pm 0.012)	2.8 \pm 0.3 (0.110 \pm 0.012)	1.3 \pm 0.3 (0.051 \pm 0.012)	2.4 \pm 0.1 (0.095 \pm 0.004)

SAH SERIES RATINGS AND CASE CODES

CAPACITANCE CODE	μ F	RATED VOLTAGE DC at 85 °C							
		4V	6.3V	10V	16V	20V	25V	35V	50V
104	0.1							A	A
154	0.15							A	B
224	0.22							A	B
334	0.33							A	B
474	0.47						A	B	C
684	0.68					A		B	C
105	1.0				A			B	C
155	1.5			A			B	C	D2, D
225	2.2		A			B		C	D2, D
335	3.3	A			B			C	
475	4.7			B			C	D2, D	
685	6.8		B			C		D2, D	
106	10	B			C		D2, D		
156	15			C		D2, D			
226	22		C		D2, D				
336	33	C		D2, D					
476	47		D2, D						
686	68	D2, D							

*HIGH
RELIABILITY
SERIES*

SAH SERIES SPECIFICATIONS**4 V DC Rated Voltage****Surge Voltage 5 VDC @ 85°C and 3.2 VDC @ 125°C**

SHARMA PART NUMBER	CAP VALUE μF	DCL (MAX) μA	DF% (MAX) at+25°C	ESR(max) OHMS at 100KHz	RIPPLE (max) Irms Amps at 100 KHz
SAH A 335 M 04 R 202	3.3	0.5	6	9.0	0.088
SAH B 106 M 04 R 202	10	0.5	6	4.0	0.141
SAH C 336 M 04 R 202	33	1.3	6	2.2	0.224
SAH D2 686 M 04 R 501	68	2.7	6	1.1	0.363
SAH D 686 M 04 R 501	68	2.7	6	1.1	0.369

6.3 V DC Rated Voltage**Surge Voltage 8 VDC @ 85°C and 5 VDC @ 125°C**

SHARMA PART NUMBER	CAP VALUE μF	DCL (MAX) μA	DF% (MAX) at+25°C	ESR(max) OHMS at 100KHz	RIPPLE (max) Irms Amps at 100 KHz
SAH A 225 M 06 R 202	2.2	0.5	6	9.0	0.088
SAH B 685 M 06 R 202	6.8	0.5	6	4.0	0.141
SAH C 226 M 06 R 501	22	1.4	6	2.2	0.224
SAH D2 476 M 06 R 501	47	3.0	6	1.1	0.363
SAH D 476 M 06 R 501	47	3.0	6	1.1	0.369

10 V DC Rated Voltage**Surge Voltage 13 VDC @ 85°C and 8 VDC @ 125°C**

SHARMA PART NUMBER	CAP VALUE μF	DCL (MAX) μA	DF% (MAX) at+25°C	ESR(max) OHMS at 100KHz	RIPPLE (max) Irms Amps at 100 KHz
SAH A 155 M 10 R 202	1.5	0.5	6	10.0	0.084
SAH B 475 M 10 R 202	4.7	0.5	6	4.0	0.141
SAH C 156 M 10 R 501	15	1.5	6	2.2	0.224
SAH D2 336 M 10 R 501	33	3.3	6	1.1	0.363
SAH D 336 M 10 R 501	33	3.3	6	1.1	0.369

16 V DC Rated Voltage**Surge Voltage 20 VDC @ 85°C and 13 VDC @ 125°C**

SHARMA PART NUMBER	CAP VALUE μF	DCL (MAX) μA	DF% (MAX) at+25°C	ESR(max) OHMS at 100KHz	RIPPLE (max) Irms Amps at 100 KHz
SAH A 105 M 16 R 202	1	0.5	4	11.0	0.080
SAH B 335 M 16 R 202	3.3	0.5	6	4.4	0.135
SAH C 106 M 16 R 501	10	1.6	6	2.2	0.224
SAH D2 226 M 16 R 501	22	3.5	6	1.1	0.363
SAH D 226 M 16 R 501	22	3.5	6	1.1	0.369

20 V DC Rated Voltage**Surge Voltage 26 VDC @ 85°C and 16 VDC @ 125°C**

SHARMA PART NUMBER	CAP VALUE μF	DCL (MAX) μA	DF% (MAX) at+25°C	ESR(max) OHMS at 100KHz	RIPPLE (max) Irms Amps at 100 KHz
SAH A 684 M 20 R 202	0.68	0.5	4	12.0	0.076
SAH B 225 M 20 R 202	2.2	0.5	6	5.0	0.126
SAH C 685 M 20 R 501	6.8	1.4	6	2.4	0.274
SAH D2 156 M 20 R 501	15	3.0	6	1.1	0.363
SAH D 156 M 20 R 501	15	3.0	6	1.1	0.369

25 V DC Rated Voltage**Surge Voltage 32 VDC @ 85°C and 20 VDC @ 125°C**

SHARMA PART NUMBER	CAP VALUE μF	DCL (MAX) μA	DF% (MAX) at+25°C	ESR(max) OHMS at 100KHz	RIPPLE (max) Irms Amps at 100 KHz
SAH A 474 M 25 R 202	0.47	0.5	4	14.0	0.071
SAH B 155 M 25 R 202	1.5	0.5	6	5.5	0.121
SAH C 475 M 25 R 501	4.7	1.2	6	2.4	0.214
SAH D2 106 M 25 R 501	10	2.5	6	1.2	0.348
SAH D 106 M 25 R 501	10	2.5	6	1.2	0.354

35 V DC Rated Voltage**Surge Voltage 45 VDC @ 85°C and 28 VDC @ 125°C**

SHARMA PART NUMBER	CAP VALUE μF	DCL (MAX) μA	DF% (MAX) at+25°C	ESR(max) OHMS at 100KHz	RIPPLE (max) Irms Amps at 100 KHz
SAH A 104 M 35 R 202	0.1	0.5	4	24.0	0.054
SAH A 154 M 35 R 202	0.15	0.5	4	21.0	0.058
SAH A 224 M 35 R 202	0.22	0.5	4	18.0	0.062
SAH A 334 M 35 R 202	0.33	0.5	4	15.0	0.068
SAH B 474 M 35 R 202	0.47	0.5	4	10.0	0.089
SAH B 684 M 35 R 202	0.68	0.5	4	8.0	0.100
SAH B 105 M 35 R 202	1	0.5	4	6.5	0.111
SAH C 155 M 35 R 501	1.5	0.5	6	4.5	0.156
SAH C 225 M 35 R 501	2.2	0.8	6	3.5	0.177
SAH C 335 M 35 R 501	3.3	1.2	6	2.5	0.210
SAH D2 475 M 35 R 501	4.7	1.6	6	1.5	0.311
SAH D 475 M 35 R 501	4.7	1.6	6	1.5	0.316
SAH D2 685 M 35 R 501	6.8	2.4	6	1.3	0.334
SAH D 685 M 35 R 501	6.8	2.4	6	1.3	0.340

50 V DC Rated Voltage**Surge Voltage 63 VDC @ 85°C and 40 VDC @ 125°C**

SHARMA PART NUMBER	CAP VALUE μF	DCL (MAX) μA	DF% (MAX) at+25°C	ESR(max) OHMS at 100KHz	RIPPLE (max) Irms Amps at 100 KHz
SAH A 104 M 50 R 202	0.1	0.5	4	22.0	0.056
SAH B 154 M 50 R 202	0.15	0.5	4	17.0	0.069
SAH B 224 M 50 R 202	0.22	0.5	4	14.0	0.076
SAH B 334 M 50 R 202	0.33	0.5	4	12.0	0.082
SAH C 474 M 50 R 501	0.47	0.5	4	8.0	0.117
SAH C 684 M 50 R 501	0.68	0.5	4	7.5	0.121
SAH C 105 M 50 R 501	1	0.5	4	5.5	0.141
SAH D2 155 M 50 R 501	1.5	0.8	6	4.0	0.132
SAH D 155 M 50 R 501	1.5	0.8	6	3.5	0.141
SAH D2 225 M 50 R 501	2.2	1.1	6	2.5	0.249
SAH D 225 M 50 R 501	2.2	1.1	6	2.5	0.241

NOTE: FOR 10% TOLERANCE CHANGE TOLERANCE CODE FROM M TO K. FOR 5% TOLERANCE CHANGE TOLERANCE CODE FROM M TO J.
STANDARD REEL SIZE AND ORIENTATION = R. FOR OTHER SEE ORDERING INFORMATION ON PAGE 3.