

TOSHIBA Toshiba SD (Severe Duty) 3-Phase Motors

56-404 Frame Motors – 1/2HP to 100HP

Standard Features

- 230/460 VAC
- Rated output: 1/2 - 100 HP
- 1800, 3600, 1200 RPM
- Class F insulation (155° C), inverter duty, exceeds NEMA MG1 Part 31
- IP55
- Constant torque speed ratings 20:1 on 4 and 6 pole, 10:1 on 2 pole
- Frame sizes: NEMA 56 to 405
- Rigid base or C-face footed mount
- Enclosure: TEFC (1/2HP TENV only)
- Stamped steel fan cover
- Certified Class I, Div 2, Groups A,B,C,D
- Multiple drain provisions for horizontal and vertical mounting
- 100% no-load commercial test per IEEE 112 on all motors
- Non-sparking, non-corrosive fan
- Lead cable rating 125°C
- Lead terminal lugs: 284 frame & larger

Advanced Features

- Oversized 300 series bearings provides extended motor life
- Grade 25 cast iron frame, bearing brackets, and conduit box
- Heavy duty durable construction includes increased ribbing on the end bells, maximum surface area at connection points, and deep bearing pockets
- Manufactured to run at lower vibration levels, preserving the mechanical integrity of the motor and bearings
- High torque output meets or exceeds NEMA B
- Class H (180C) Insulation on many components

Applications

- Severe duty or general purpose
- Higher ambient temperature or higher elevation locations
- Pumps
- Fans
- Compressors
- Conveyors
- Mixers
- Material handling



0106SDSR41A-P



0104SDSR42A-P

Motor Specifications – 3-phase										
Part Number	Price	HP*	Base RPM	Volts	Encl.	NEMA Frame	Service Factor	NEMA Design	Weight (lb)	Drawing Links
Rigid Base - 1800 RPM										
1-24FNSR31H-P	\$:05#10:	1/2	1800	230/460 VAC	TENV	56	1.25	B	57	PDF
3-44SDSR31H-P	\$:05##[:	3/4			TEFC	143T	1.15		57	PDF
0014SDSR41A-P	\$:05#14:	1				145T			57	PDF
Y154SDSR41A-P	\$:05#!a:	1 1/2				182T			57	PDF
0024SDSR41A-P	\$:;05#1f:	2				184T			95	PDF
0034SDSR41A-P	\$:05#1k:	3				213T			101	PDF
0054SDSR41A-P	\$:05#1s:	5				215T			187	PDF
Y754SDSR41A-P	\$:05#1z:	7 1/2				254T			198	PDF
0104SDSR41A-P	\$:;005#1?:	10				256T			317	PDF
0154SDSR41A-P	\$:005#?3:	15				284T			355	PDF
0204SDSR41A-P	\$:005#?8:	20				286T			481	PDF
0254SDSR41A-P	\$:005#?c:	25				324T			496	PDF
0304SDSR41A-P	\$:;005#?f:	30				326T			642	PDF
0404SDSR41A-P	\$:;-005#?j:	40				364T			701	PDF
0504SDSR41A-P	\$:005#?o:	50				365T			873	PDF
0604SDSR41A-P	\$:005#?s:	60				405T			932	PDF
0754SDSR41A-P	\$:;005#?t:	75							1418	PDF
1004SDSR41A-PR	\$:0005#?u:	100								
Rigid Base With C-face - 1800 RPM										
1-24FNSR32H-P	\$:05#12:	1/2	1800	230/460 VAC	TENV	56C	1.25	B	57	PDF
3-44SDSR32H-P	\$05###:	3/4			TEFC	143TC	1.15		57	PDF
0014SDSR42A-P	\$:05#16:	1				56C			60	PDF
0014SDSR42H-P	\$:05#17:	1				145TC			75	PDF
Y154SDSR42A-P	\$:05#1d:	1 1/2				182TC			64	PDF
0024SDSR42A-P	\$:05#1h:	2				184TC			60	PDF
0034SDSR42A-P	\$:05#1o:	3				213TC			104	PDF
0054SDSR42A-P	\$:05#1v:	5				215TC			112	PDF
Y754SDSR42A-P	\$:;005#1_:	7 1/2				254TC			192	PDF
0104SDSR42A-P	\$:005#?0:	10				256TC			198	PDF
0154SDSR42A-P	\$:005#?5:	15				284TC			324	PDF
0204SDSR42A-P	\$:005#?a:	20				286TC			353	PDF
0254SDSR42A-P	\$:005#?d:	25				324TC			496	PDF
0304SDSR42A-P	\$:005#?h:	30				326TC			509	PDF
0404SDSR42A-P	\$:;-005#?l:	40							670	PDF
0504SDSR42A-P	\$:005#?q:	50							711	PDF

*See Motor Data Pack for 50Hz specifications

TOSHIBA**Toshiba SD (Severe Duty)
3-Phase Motors**

Motor Specifications – 3-phase											
Part Number	Price	HP*	Base RPM	Volts	Encl.	NEMA Frame	Service Factor	NEMA Design	Weight (lb)	Drawing Links	
Rigid Base - 3600 RPM											
3-42SDSR31H-P	\$05##_:	3/4	3600	230/460 VAC	TEFC	56	1.25	B	53	PDF	
0012SDSR41H-P	\$:05#!5:	1							53	PDF	
Y152SDSR41A-P	\$:05#!b:	1 1/2				143T	1.15		57	PDF	
0022SDSR41A-P	\$:05#!g:	2				145T			57	PDF	
0032SDSR41A-P	\$:-05#!i:	3				182T			86	PDF	
0052SDSR41A-P	\$:,05#!t:	5				184T			99	PDF	
Y752SDSR41A-P	\$:,05#!j:	7 1/2				213T			168	PDF	
0102SDSR41A-P	\$:::005#!,::	10				215T			183	PDF	
0152SDSR41A-P	\$:005#?4:	15				254T			295	PDF	
0202SDSR41A-P	\$:005#?9:	20				256T			313	PDF	
0302SDSR41B-P	\$:005#?g:	30				286TS			474	PDF	
0402SDSR41B-P	\$:005#?k:	40				324TS			622	PDF	
0502SDSR41B-P	\$:005#?p:	50				326TS			655	PDF	
Rigid Base With C-face - 3600 RPM											
3-42SDSR32H-P	\$:05##!:	3/4	3600	230/460 VAC	TEFC	56C	1.25	B	53	PDF	
0012SDSR42H-P	\$:05#!8:	1							143TC		
Y152SDSR42A-P	\$:05#!e:	1 1/2				1.15			62	PDF	
0022SDSR42A-P	\$:-05#!i:	2							62	PDF	
0032SDSR42A-P	\$:05#!p:	3							93	PDF	
0052SDSR42A-P	\$:05#!x:	5							106	PDF	
Y752SDSR42A-P	\$:,005#!#:	7 1/2							174	PDF	
0102SDSR42A-P	\$:005#?1:	10							192	PDF	
0152SDSR42A-P	\$:005#?6:	15							304	PDF	
Rigid Base - 1200 RPM											
1-26SDSR31H-P	\$:05##,::	1/2	1200	230/460 VAC	TEFC	56	1.25	B	57	PDF	
3-46SDSR31H-P	\$:05#!3:	3/4							145T		
0016SDSR41A-P	\$05##?:	1				1.15			60	PDF	
Y156SDSR41A-P	\$:05#!9:	1 1/2							99	PDF	
0036SDSR41A-P	\$:-05#!j:	3							163	PDF	
0056SDSR41A-P	\$:,005#!q:	5							176	PDF	
Y756SDSR41A-P	\$:,005#!y:	7 1/2							278	PDF	
0106SDSR41A-P	\$:::005#!i:	10							291	PDF	
0156SDSR41A-P	\$:005#?2:	15							441	PDF	
0206SDSR41A-P	\$:005#?7:	20							457	PDF	
0256SDSR41A-P	\$:005#?b:	25							590	PDF	
0306SDSR41A-P	\$:005#?e:	30							613	PDF	
0406SDSR41A-P	\$:-005#?i:	40							766	PDF	
0506SDSR41A-P	\$:005#?n:	50							814	PDF	
Rigid Base With C-face - 1200 RPM											
1-26SDSR32H-P	\$:05#!1:	1/2	1200	230/460 VAC	TEFC	56C	1.25	B	57	PDF	
Y156SDSR42A-P	\$:05#!c:	1 1/2							182TC		
0036SDSR42A-P	\$:05#!n:	3				1.15			165	PDF	
0056SDSR42A-P	\$:,005#!u:	5							179	PDF	
Y756SDSR42A-P	\$:::005#!j:	7 1/2							282	PDF	

*See Motor Data Pack for 50Hz specifications

TOSHIBA**Toshiba SD (Severe Duty)
3-Phase Motors**

Performance Data – 3-phase																
Part Number	HP*	Full Load RPM*	Volts*	Current			Torque			Torque Speed Rating		Full Load Effic. %	Full Load Power Factor	Moment of Inertia (lb-ft ²)		
				No Load Current	Full Load Amps	Locked Rotor Amps	Full Load (lb-ft)	Locked Rotor	Breakdown	Pull Up	Constant				Variable	
								% of Full Load Torque								
Rigid Base - 1800 RPM																
1-24FN3R31H-P	1/2	1755	230/460 VAC	0.4	2.8/1.4	5.6	1.50	245	355	195	20:1	60:1	84.0	74.90	0.11	
3-44SDSR31H-P	3/4	1765		0.8	11.6/5.8	10.3	2.23	320	455	245			67.30			
0014SDSR41A-P	1	1760		1.1	2.8/1.4	13.8	2.98	340	490	295			85.5	67.50		
Y154SDSR41A-P	1 1/2	1755		1.3	210/105	17.1	4.49	260	365	325			86.5	73.10	0.12	
0024SDSR41A-P	2	1750		1.6	5.2/2.6	24.0	6.00	255	390	225				84.80	0.13	
0034SDSR41A-P	3	1760		1.8	7.4/3.7	32.0	8.95	270		225				79.60	0.37	
0054SDSR41A-P	5	1750		2.7	11.6/5.8	46.0	15.00	255	370	240			89.5	81.20	0.5	
Y754SDSR41A-P	7 1/2	1760		4.4	210/105	63.0	22.40	270	340	215				79.90	1.15	
0104SDSR41A-P	10			5.7	24/11.8	81.0	29.80	260	330	225				80.20	1.34	
0154SDSR41A-P	15			1770	7.5	36/18	113.0	44.50	240	265			185	92.4	81.00	2.33
0204SDSR41A-P	20	9.8			48/24	145.0	59.30	260	280	215			93.0	81.00	3.18	
0254SDSR41A-P	25	11			64/32	182.0	74.20	190	295	165			93.6	83.50	5.23	
0304SDSR41A-P	30	12.7		70/35	217.0	89.00	185	290	165	83.60				5.7		
0404SDSR41A-P	40	1775		15.6	94/47	289.0	118.00	180	275	155			94.1	85.40	9.8	
0504SDSR41A-P	50			18.7	116/58	363.0	148.00	175	265	145			94.5	85.70	11.6	
0604SDSR41A-P	60			20	138/69	435.0	178.00	160	270	135			95.0	87.30	16.8	
0754SDSR41A-P	75	24		170/85	543.0	221.00	135			95.4			87.40	20.46		
1004SDSR41A-PR	100	1775		38.8	210/105	725.0	296.00	215	310				175	84.60	25.95	
Rigid Base With C-face - 1800 RPM																
1-24FN3R32H-P	1/2	1755	230/460 VAC	0.4	11.6/5.8	5.6	1.50	245	355	195	20:1	60:1	84.0	74.90	0.11	
3-44SDSR32H-P	3/4	1765		0.8	210/105	9.3	1.79	320	455	245			62.10			
0014SDSR42A-P	1	1760		1.1	3.2/1.6	13.8	2.98	340	490	295			85.5	67.50		0.11
0014SDSR42H-P		1765			2.8/1.4	13.6	2.98	320	480	260				66.40		
Y154SDSR42A-P	1 1/2	1755		1.3	210/105	17.1	4.49	260	365	325			86.5	73.10	0.12	
0024SDSR42A-P	2	1750		1.6	5.2/2.6	24.0	6.00	255	390	225				84.80	0.13	
0034SDSR42A-P	3	1760		1.8	7.4/3.7	32.0	8.95	270		225				89.5	79.60	0.37
0054SDSR42A-P	5	1750		2.7	11.6/5.8	46.0	15.00	255	370	240			89.5	81.20	0.5	
Y754SDSR42A-P	7 1/2	1760		4.4	210/105	63.0	22.40	270	340	215				91.7	79.90	1.15
0104SDSR42A-P	10			5.7	24/11.8	81.0	29.80	260	330	225				91.7	80.20	1.34
0154SDSR42A-P	15			1770	7.5	36/18	113.0	44.50	240	265			185	92.4	81.00	2.33
0204SDSR42A-P	20	9.8			50/25	145.0	59.30	260	280	215			93.0	81.00	3.18	
0254SDSR42A-P	25	11			64/32	182.0	74.20	190	295	165			93.6	83.50	5.23	
0304SDSR42A-P	30	12.7		72/36	217.0	89.00	185	290	165	83.60				5.7		
0404SDSR42A-P	40	1775		15.6	96/48	289.0	118.00	180	275	155			94.1	85.40	9.8	
0504SDSR42A-P	50			18.7	120/60	362.0	148.00	175	265	145			94.5	85.70	11.6	

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TOSHIBA

Toshiba SD (Severe Duty) 3-Phase Motors

Performance Data – 3-phase																			
Part Number	HP*	Full Load RPM*	Volts*	Current			Torque			Torque Speed Rating		Full Load Effic. %	Full Load Power Factor	Moment of Inertia (lb-ft ²)					
				No Load Current	Full Load Amps	Locked Rotor Amps	Full Load (lb-ft)	Locked Rotor	Breakdown	Pull Up	Constant				Variable				
																% of Full Load Torque			
Rigid Base - 3600 RPM																			
3-42SDSR31H-P	3/4	3510	230/460 VAC	0.5	210/105	7.4	1.12	220	275	170	10:1	60:1	84.0	78.70	0.04				
0012SDSR41H-P	1	3480		0.7	2.8/1.4	9.0	1.51	225	335	170			77.0	79.00					
Y152SDSR41A-P	1 1/2	3490		1	210/105	18.0	2.26	265	360	225			84.0	75.80	0.05				
0022SDSR41A-P	2			1.2	5.2/2.6	24.0	3.01	275		245			85.5	84.40	0.06				
0032SDSR41A-P	3	3500			7.4/3.7	29.0	4.50	195	335	175			86.5	88.80	0.13				
0052SDSR41A-P	5			1.4	11.6/5.8	46.0	7.50	215	340	185			88.5	91.80	0.2				
Y752SDSR41A-P	7 1/2			2.4	210/105	60.0	11.30	230	320	215			89.5	88.50	0.46				
0102SDSR41A-P	10	3510		3.6	24/11.8	80.0	15.00	265	355	235			90.2	88.20	0.62				
0152SDSR41A-P	15	3530		5.5	36/18	116.0	22.30	230	280	195			91.0	86.60	1.19				
0202SDSR41A-P	20	3520		6.1	48/24	143.0	29.80	215	255	195			87.70	1.38					
0302SDSR41B-P	30	3540		9.2	70/35	217.0	44.50		265	195			91.7	88.90	3.58				
0402SDSR41B-P	40			12	94/47	290.0	59.30	265	275	225			92.4	87.70	5.74				
0502SDSR41B-P	50			13.7	116/58	362.0	74.20	250	260	215			93.0	88.20	6.39				
Rigid Base With C-face - 3600 RPM																			
3-42SDSR32H-P	3/4			3510	230/460 VAC	0.5	210/105	7.4	1.12	220			275	170	10:1	60:1	84.0	78.70	0.04
0012SDSR42H-P	1	3480	0.7	2.8/1.4		9.0	1.51	225	335	170	77.0	79.00							
Y152SDSR42A-P	1 1/2	3490	1	210/105		18.0	2.26	265	360	225	84.0	83.20	0.05						
0022SDSR42A-P	2		1.2	5.2/2.6		24.0	3.01	275		245	85.5	84.40	0.06						
0032SDSR42A-P	3	3500		7.4/3.7		29.0	4.50	195	335	175	86.5	88.80	0.13						
0052SDSR42A-P	5		1.4	11.6/5.8		46.0	7.50	215	340	185	88.5	91.80	0.2						
Y752SDSR42A-P	7 1/2		2.4	210/105		60.0	11.30	230	320	215	89.5	88.50	0.46						
0102SDSR42A-P	10	3510	3.6	24/11.8		80.0	15.00	265	355	235	90.2	88.20	0.62						
0152SDSR42A-P	15	3530	5.5	36/18		116.0	22.30	230	280	195	91.0	86.60	1.19						
Rigid Base - 1200 RPM																			
1-26SDSR31H-P	1/2	1170	230/460 VAC	0.6		1.4/0.7	5.7	2.24	235	310	180	20:1	60:1	80.0			65.50	0.15	
3-46SDSR31H-P	3/4	1165		0.8	11.6/5.8	8.0	3.38	215	285	165	82.5			66.50					
0016SDSR41A-P	1	1170		1.2	2.8/1.4	12.5	4.49	240	350	175	87.5			65.40	0.18				
Y156SDSR41A-P	1 1/2			1.5	210/105	20.0	6.73	245	420	185	89.5			65.40	0.43				
0036SDSR41A-P	3	1160		2.4	7.4/3.7	32.0	13.50	225	370	205	89.5			74.10	1.03				
0056SDSR41A-P	5			3.1	11.6/5.8	45.5	22.60	185	330	175	89.5			78.20	1.32				
Y756SDSR41A-P	7 1/2			4.6	210/105	63.8	33.70	255	310	240	91.0			78.40	2.16				
0106SDSR41A-P	10	1170		5.5	24/11.8	79.1	44.90	280	380	270	91.0			79.90	2.65				
0156SDSR41A-P	15	3510		9.2	36/18	116.0	67.00	240	260	215	91.7			77.80	4.68				
0206SDSR41A-P	20	1170		11.2	50/25	145.0	89.80	255	275	225	91.7			79.90	6.1				
0256SDSR41A-P	25	1180		12.3	64/32	182.5	111.00	235		215	93.0			81.40	11.3				
0306SDSR41A-P	30			14.7	72/36	217.0	134.00	220	265	155	93.0			81.00	12.34				
0406SDSR41A-P	40			15.5	96/48	288.0	178.00	190	260	175	94.1			85.50	17.67				
0506SDSR41A-P	50			18.2	120/60	360.0	223.00	185	250	165	94.1			85.20	20.06				
Rigid Base With C-face - 1200 RPM																			
1-26SDSR32H-P	1/2	1170	230/460 VAC	0.6	2.8/1.4	5.7	2.24	235	310	180	20:1	60:1	80.0	65.50	0.15				
Y156SDSR42A-P	1 1/2			1.5	210/105	20.0	6.73	245	420	185			87.5	65.40	0.43				
0036SDSR42A-P	3			2.4	7.4/3.7	32.0	13.50	225	370	205			89.5	74.10	1.03				
0056SDSR42A-P	5			3.1	11.6/5.8	45.5	22.60	185	330	175			89.5	78.20	1.32				
Y756SDSR42A-P	7 1/2			4.6	210/105	63.8	33.70	255	310	240			91.0	78.40	2.16				

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