

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	\$414.00	1/2	1800	230/460 VAC	TENV	56	1.25	B	57	PDF
3-44SDSR31H-P	\$437.00	3/4			57				PDF	
0014SDSR41A-P	\$376.00	1			143T				PDF	
Y154SDSR41A-P	\$413.00	1 1/2			145T				PDF	
0024SDSR41A-P	\$449.00	2			182T				PDF	
0034SDSR41A-P	\$516.00	3			184T				PDF	
0054SDSR41A-P	\$589.00	5			213T				PDF	
Y754SDSR41A-P	\$842.00	7 1/2			215T				PDF	
0104SDSR41A-P	\$1,025.00	10			254T				PDF	
0154SDSR41A-P	\$1,383.00	15			256T				PDF	
0204SDSR41A-P	\$1,708.00	20			284T				PDF	
0254SDSR41A-P	\$2,072.00	25			286T				PDF	
0304SDSR41A-P	\$2,491.00	30			324T				PDF	
0404SDSR41A-P	\$3,221.00	40			326T				PDF	
0504SDSR41A-P	\$3,928.00	50			364T				PDF	
0604SDSR41A-P	\$5,536.00	60			365T				PDF	
0754SDSR41A-P	\$7,132.00	75			405T				PDF	
1004SDSR41A-PR	\$10,130.00	100		PDF						
Rigid Base With C-face - 1800 RPM										
1-24FNSR32H-P	\$446.00	1/2	1800	230/460 VAC	TENV	56C	1.25	B	57	PDF
3-44SDSR32H-P	\$465.00	3/4			57				PDF	
0014SDSR42A-P	\$485.00	1			143TC				PDF	
0014SDSR42H-P	\$555.00				56C				PDF	
Y154SDSR42A-P	\$524.00	1 1/2			145TC				PDF	
0024SDSR42A-P	\$562.00	2			182TC				PDF	
0034SDSR42A-P	\$649.00	3			184TC				PDF	
0054SDSR42A-P	\$726.00	5			213TC				PDF	
Y754SDSR42A-P	\$984.00	7 1/2			215TC				PDF	
0104SDSR42A-P	\$1,167.00	10			254TC				PDF	
0154SDSR42A-P	\$1,596.00	15			256TC				PDF	
0204SDSR42A-P	\$1,922.00	20			284TC				PDF	
0254SDSR42A-P	\$2,427.00	25			286TC				PDF	
0304SDSR42A-P	\$2,847.00	30			324TC				PDF	
0404SDSR42A-P	\$3,620.00	40			326TC				PDF	
0504SDSR42A-P	\$4,327.00	50							PDF	

*See Motor Data Pack for 50Hz specifications



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	\$399.00	3/4	3600	230/460 VAC	TEFC	56	1.25	B	53	PDF				
0012SDSR41H-P	\$475.00	1							53	PDF				
Y152SDSR41A-P	\$409.00	1 1/2				143T	57		PDF					
0022SDSR41A-P	\$496.00	2				145T	57		PDF					
0032SDSR41A-P	\$525.00	3				182T	86		PDF					
0052SDSR41A-P	\$650.00	5				184T	99		PDF					
Y752SDSR41A-P	\$842.00	7 1/2				213T	168		PDF					
0102SDSR41A-P	\$1,010.00	10				215T	183		PDF					
0152SDSR41A-P	\$1,390.00	15				254T	295		PDF					
0202SDSR41A-P	\$1,800.00	20				256T	313		PDF					
0302SDSR41B-P	\$2,539.00	30				286TS	474		PDF					
0402SDSR41B-P	\$3,197.00	40				324TS	622		PDF					
0502SDSR41B-P	\$4,432.00	50				326TS	655		PDF					
Rigid Base With C-face - 3600 RPM														
3-42SDSR32H-P	\$436.00	3/4	3600	230/460 VAC	TEFC	56C	1.25	B	53	PDF				
0012SDSR42H-P	\$522.00	1							57	PDF				
Y152SDSR42A-P	\$520.00	1 1/2				143TC	62		PDF					
0022SDSR42A-P	\$611.00	2				145TC	62		PDF					
0032SDSR42A-P	\$659.00	3				182TC	93		PDF					
0052SDSR42A-P	\$791.00	5				184TC	106		PDF					
Y752SDSR42A-P	\$984.00	7 1/2				213TC	174		PDF					
0102SDSR42A-P	\$1,152.00	10				215TC	192		PDF					
0152SDSR42A-P	\$1,603.00	15				254TC	304		PDF					
Rigid Base - 1200 RPM														
1-26SDSR31H-P	\$442.00	1/2	1200	230/460 VAC	TEFC	56	1.25	B	57	PDF				
3-46SDSR31H-P	\$443.00	3/4							57	PDF				
0016SDSR41A-P	\$467.00	1				145T	60		PDF					
Y156SDSR41A-P	\$499.00	1 1/2				182T	99		PDF					
0036SDSR41A-P	\$735.00	3				213T	163		PDF					
0056SDSR41A-P	\$1,080.00	5				215T	176		PDF					
Y756SDSR41A-P	\$1,433.00	7 1/2				254T	278		PDF					
0106SDSR41A-P	\$1,751.00	10				256T	291		PDF					
0156SDSR41A-P	\$2,456.00	15				284T	441		PDF					
0206SDSR41A-P	\$2,877.00	20				286T	457		PDF					
0256SDSR41A-P	\$3,491.00	25				324T	590		PDF					
0306SDSR41A-P	\$4,262.00	30				326T	613		PDF					
0406SDSR41A-P	\$5,576.00	40				364T	766		PDF					
0506SDSR41A-P	\$6,510.00	50				365T	814		PDF					
Rigid Base With C-face - 1200 RPM														
1-26SDSR32H-P	\$484.00	1/2				1200	230/460 VAC		TEFC	56C	1.25	B	57	PDF
Y156SDSR42A-P	\$632.00	1 1/2	182TC	109	PDF									
0036SDSR42A-P	\$915.00	3	213TC	165	PDF									
0056SDSR42A-P	\$1,279.00	5	215TC	179	PDF									
Y756SDSR42A-P	\$1,647.00	7 1/2	254TC	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																			
1-24FNRSR31H-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			89.5	79.60	0.37				
0054SDSR41A-P	5	1750		2.7	11.6/5.8	46.0	15.00	255	370	240			91.7	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			95.4	84.60	25.95				
Rigid Base With C-face - 1800 RPM																			
1-24FNRSR32H-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							
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	91.7	81.20	0.5						
Y754SDSR42A-P	7 1/2	1760	4.4		210/105	63.0	22.40	270	340	215		79.90	1.15						
0104SDSR42A-P	10		5.7		24/11.8	81.0	29.80	260	330	225	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		1.4	7.4/3.7	29.0	4.50	195	335	175			86.5	88.80	0.13		
0052SDSR41A-P	5				11.6/5.8	46.0	7.50	215	340	185			88.5	91.80	0.2		
Y752SDSR41A-P	7 1/2	3510		2.4	210/105	60.0	11.30	230	320	215			89.5	88.50	0.46		
0102SDSR41A-P	10				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	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		1.4	7.4/3.7	29.0	4.50	195	335	175			86.5	88.80	0.13		
0052SDSR42A-P	5				11.6/5.8	46.0	7.50	215	340	185			88.5	91.80	0.2		
Y752SDSR42A-P	7 1/2	3510		2.4	210/105	60.0	11.30	230	320	215			89.5	88.50	0.46		
0102SDSR42A-P	10				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				65.60	0.18		
Y156SDSR41A-P	1 1/2			1.5	210/105	20.0	6.73	245	420	185			87.5	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				11.6/5.8	45.5	22.60	185	330	175				78.20	1.32		
Y756SDSR41A-P	7 1/2	1170		4.6	210/105	63.8	33.70	255	310	240			91.0	78.40	2.16		
0106SDSR41A-P	10				5.5	24/11.8	79.1	44.90	280	380				270	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				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	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		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			11.6/5.8	45.5	22.60	185	330	175	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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