SIEMENS

Data sheet

3RF2050-1AA04



Semiconductor relay, 1-phase 3RF2 Overall width 45 mm, 50 A 48-460 V / 24 V DC screw terminal

product brand name SIRUS product designation solid-state relay design of the product single-phase product truction 3RF20 Central tochnical data product function product function zero-point switching product function zero-point switching or at AC in hot operating state per pole 66 W • at AC in hot operating state per pole 66 W • without load current share bylical 0.4 W insulation voitage rated value 600 V type of voitage of the control supply voltage DC shock resistance according to IEC 6008-2-62 2g reference code according to IEC 61346-2 Q number of NC contacts for main contacts 1 number of NC contacts for main contacts 1 number of NC contacts for main contacts <t< th=""><th></th><th></th></t<>		
design of the product single-phase product type designation 38F20 operating the function 2ero-point switching product function 2ero-point switching power loss [W] for rated value of the current 66 W • at AC in hot operating state 66 W • at AC in hot operating state prole 66 W • without load current share byical 0.4 W Insulation voltage rated value 600 V bype of voltage of the control supply voltage DC shock resistance according to IEC 6008-2-27 15g /11 ms vibration resistance according to IEC 6008-2-6 2g reference code according to IEC 81346-2 Q Substance Prohibitance (Date) 0528/2009 Main circuit 1 number of NG contacts for main contacts 1 number of NG contacts for main contacts 1 operating voltage at AC 48 460 V • at 60 Hz reted value 48 460 V • at 60 Hz reted value 48 460 V • at 60 Hz reted value 49 506 V • at 60 Hz reted value 40 506 V • at 60 Hz 00 506 V • at 60 Hz 50 A • at 60 Hz 50 A • at 60 Hz 50 A • at 60 Hz	product brand name	SIRIUS
product type designation 3RF20 Ceneral technical data	product designation	solid-state relay
Ceneral technical data product function zero-point switching power loss [W] for rated value of the current 66 W • at AC in hot operating state 66 W • at AC in hot operating state per pole 66 W • without load current share typical 0.4 W insultation voltage rated value 600 V type of voltage of the control supply voltage DC shock resistance according to EC 60068-2.27 15g / 11 ms vibration resistance according to EC 60068-2.6 2g reference code according to EC 60068-2.6 2g reference code according to EC 60068-2.6 2g reference code according to EC 60068-2.6 0 Substance Prohibitance (Date) 05(28)/2009 Main circuit 1 number of No contacts for main current circuit 1 number of NC contacts for main contacts 1 operating voltage at AC 48 460 V • at 60 Hz rated value 48 460 V operating requery rated value 49 506 V • at 60 Hz rated value 40 506 V • at 60 Hz 0 506 V • at 60 Hz 0 506 V <td< th=""><th>design of the product</th><th>single-phase</th></td<>	design of the product	single-phase
product function zero-point switching power loss [W] for rated value of the current 66 W • at AC in hot operating state per pole 66 W • without load current share typical 0.4 W insulation voltage rated value 600 V type of voltage of the control supply voltage DC shock resistance according to IEC 60068-2-27 15g / 11 ms vibration resistance according to IEC 60068-2-20 Q reference code according to IEC 60068-2-20 Q Substance Prohibitance (Date) 05/28/2009 Main circuit 1 number of NO contacts for main contacts 1 number of NO contacts for main contacts 0 operating requency rated value 48 460 V • at 50 Hz rated value 48 460 V • at 60 Hz rated value 40 506 V • at 60 Hz 40 506 V • at 60 Hz 50 A • at 60 Hz </th <th>product type designation</th> <th>3RF20</th>	product type designation	3RF20
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• at AC in hot operating state per pole 66 W • without load current share typical 0.4 W Insultation voltage rated value 600 V type of voltage of the control supply voltage DC shock resistance according to IEC 60068-2-27 15g / 11 ms vibration resistance according to IEC 60068-2-4 2g reference code according to IEC 60068-2-4 Q substance Prohibitance (Date) 05/28/2009 Main circuit 1 number of NO contacts for main current circuit 1 number of NO contacts for main contacts 1 operating voltage at AC 0 operating requency rated value 48 460 V • at 50 Hz rated value 48 460 V • at 50 Hz rated value 48 460 V • at 50 Hz rated value 48 460 V • at 60 Hz 7 relative symmetrical tolerance of the operating frequency 10 % operating range relative to the operating voltage at AC 0 • at 60 Hz 40 506 V • at 60 Hz 50 A operating auximum 50 A • at 60 Hz 50 A • at 60 Hz <	product function	zero-point switching
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without bad current share typical 0.4 W insulation voltage rated value 600 V type of voltage of the control supply voltage DC shock resistance according to IEC 60068-2-7 15g / 11 ms vibration resistance according to IEC 60068-2-6 2g reference code according to IEC 61068-2-2 Q Substance Prohibitance (Date) 05/28/2009 Main circuit number of Poles for main current circuit 1 number of NC contacts for main contacts 1 number of NC contacts for main contacts 0 operating voltage at AC • at 50 Hz rated value 48 460 V • at 60 Hz rated value fequency rated value 48 460 V • at 50 Hz control to the operating frequency 10 % operating range relative to the operating frequency 10 % operating to ILC 50 rated value 50 A according to UL 508 rated value 50 A ampacity maximum 50 A operational current to the thyristor for main contacts 1000 V/µs	 at AC in hot operating state 	66 W
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Main circuit number of poles for main current circuit 1 number of NC contacts for main contacts 1 number of NC contacts for main contacts 0 operating voltage at AC • at 50 Hz rated value • at 50 Hz rated value 48 460 V • at 60 Hz rated value 50 60 Hz relative symmetrical tolerance of the operating frequency 10 % operating range relative to the operating voltage at AC • at 50 Hz • at 50 Hz 40 506 V • at 60 Hz • at 60 Hz operational current • at 60 Hz • at 60 Hz • at 60 Hz • at 60 Hz • at 60 Hz • at 60 Hz • at 50 A • at 60 Hz • at 50 A • at 60 Hz • at 60 V operational current • at AC-51 rated value • according to UL 508 rated value 50 A • according to UL 508 rated value 50 A operational current minimum 500 mA rate of voltage rise at the thyristor for main contacts 1 000 V/µs maximum permissible 1 200 V blocking voltage at the thyristor for main contacts 1 200 V	reference code according to IEC 81346-2	Q
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number of NO contacts for main contacts1number of NC contacts for main contacts0operating voltage at AC48 460 V• at 50 Hz rated value48 460 V• at 60 Hz rated value48 460 Voperating frequency rated value50 60 Hzrelative symmetrical tolerance of the operating frequency10 %operating range relative to the operating voltage at AC40 506 V• at 60 Hz40 506 V• at 60 Hz40 506 V• at 60 Hz40 506 Voperational current50 A• at AC-51 rated value50 A• at according to UL 508 rated value50 Aoperational current minimum500 mArate of voltage rise at the thyristor for main contacts maximum permissible1 000 V/µsholderating temperature1 00 mAderating temperature40 °C	Main circuit	
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• at AC-51 rated value50 A• according to UL 508 rated value50 Aampacity maximum50 Aoperational current minimum500 mArate of voltage rise at the thyristor for main contacts maximum permissible1 000 V/µsblocking voltage at the thyristor for main contacts maximum permissible1 200 Vreverse current of the thyristor10 mAderating temperature40 °C	• at 60 Hz	40 506 V
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maximum permissible 1 200 V blocking voltage at the thyristor for main contacts maximum permissible 1 200 V reverse current of the thyristor 10 mA derating temperature 40 °C	operational current minimum	500 mA
maximum permissible 10 mA reverse current of the thyristor 10 mA derating temperature 40 °C		1 000 V/µs
derating temperature 40 °C		1 200 V
	reverse current of the thyristor	10 mA
surge current resistance rated value 600 A	derating temperature	40 °C
	surge current resistance rated value	600 A

12t value maximum	1800 42.0		
I2t value maximum Control circuit/ Control	1 800 A ² ·s		
type of voltage of the control supply voltage	DC		
control supply voltage 1			
• at DC rated value	30 V		
• at DC	15 24 V		
control supply voltage			
 at DC initial value for signal <1> detection 	15 V		
at DC full-scale value for signal<0> recognition	5 V		
control current at minimum control supply voltage			
• at DC	13 mA		
control current at DC rated value	15 mA		
ON-delay time	1 ms; additionally max. one half-wave		
OFF-delay time	1 ms; additionally max. one half-wave		
Auxiliary circuit			
number of NC contacts for auxiliary contacts	0		
number of NO contacts for auxiliary contacts	0		
number of CO contacts for auxiliary contacts	0		
Installation/ mounting/ dimensions			
fastening method	screw fixing		
side-by-side mounting	Yes		
design of the thread of the screw for securing the	M4		
equipment			
tightening torque of fixing screw maximum	1.5 N·m		
tightening torque [lbf·in] of fixing screw maximum	13 lbf·in		
height	58 mm		
width	45 mm		
depth	48 mm		
Connections/ Terminals			
type of electrical connection			
 for main current circuit 	screw-type terminals		
 for auxiliary and control circuit 	screw-type terminals		
type of connectable conductor cross-sections			
 for main contacts 			
— solid	2x (1.5 2.5 mm²), 2x (2.5 6 mm²)		
 finely stranded with core end processing 	2x (1 2.5 mm²), 2x (2.5 6 mm²), 1x 10 mm²		
 for AWG cables for main contacts 	2x (14 10)		
connectable conductor cross-section for main contacts			
 solid or stranded 	1.5 6 mm²		
 finely stranded with core end processing 	1 10 mm ²		
type of connectable conductor cross-sections			
 for auxiliary and control contacts 			
— solid	1x (0.5 2.5 mm²), 2x (0.5 1.0 mm²)		
— finely stranded with core end processing	1x (0.5 2.5 mm²), 2x (0.5 1.0 mm²)		
— finely stranded without core end processing	1x (0.5 2.5 mm²), 2x (0.5 1.0 mm²)		
• for AWG cables for auxiliary and control contacts	1x (AWG 20 12)		
AWG number as coded connectable conductor cross section for	14 10		
main contacts			
tightening torque			
for main contacts with screw-type terminals	2 2.5 N·m		
	2 2.5 N·m 0.5 0.6 N·m		
for main contacts with screw-type terminalsfor auxiliary and control contacts with screw-type			
 for main contacts with screw-type terminals for auxiliary and control contacts with screw-type terminals 			
for main contacts with screw-type terminals for auxiliary and control contacts with screw-type terminals tightening torque [lbf·in]	0.5 0.6 N·m		
 for main contacts with screw-type terminals for auxiliary and control contacts with screw-type terminals tightening torque [lbf·in] for main contacts with screw-type terminals for auxiliary and control contacts with screw-type 	0.5 0.6 N·m 7 10.3 lbf·in		
 for main contacts with screw-type terminals for auxiliary and control contacts with screw-type terminals tightening torque [lbf·in] for main contacts with screw-type terminals for auxiliary and control contacts with screw-type terminals 	0.5 0.6 N·m 7 10.3 lbf·in		
 for main contacts with screw-type terminals for auxiliary and control contacts with screw-type terminals tightening torque [lbf·in] for main contacts with screw-type terminals for auxiliary and control contacts with screw-type terminals design of the thread of the connection screw 	0.5 0.6 N·m 7 10.3 lbf·in 4.5 5.3 lbf·in		
 for main contacts with screw-type terminals for auxiliary and control contacts with screw-type terminals tightening torque [lbf·in] for main contacts with screw-type terminals for auxiliary and control contacts with screw-type terminals design of the thread of the connection screw for main contacts 	0.5 0.6 N·m 7 10.3 lbf·in 4.5 5.3 lbf·in M4		
 for main contacts with screw-type terminals for auxiliary and control contacts with screw-type terminals tightening torque [lbf·in] for main contacts with screw-type terminals for auxiliary and control contacts with screw-type terminals design of the thread of the connection screw for main contacts of the auxiliary and control contacts 	0.5 0.6 N·m 7 10.3 lbf·in 4.5 5.3 lbf·in M4		

protection class IP or	n the front according to	EC 60529	IP20			
-	the front according to IE		finger-safe, for vertical conta	ct from the front		
mbient conditions						
	neight above sea level max	vimum	1 000 m			
	•	kinum	1 000 111			
ambient temperature			25 IG0 °C			
 during operation 	I		-25 +60 °C -55 +80 °C			
 during storage lectromagnetic comp 	atibility		-55 +60 C	_		
conducted interferen			2 kV / 5 kHz behavior criterio	n 2		
	ording to IEC 61000-4-4	IEC 61000 4 5	2 kV behavior criterion 2	11 2		
	r-earth surge according to r-conductor surge accordi		1 kV behavior criterion 2			
61000-4-5	uency radiation according	-	140 dBuV in the frequency ra	ange 0 15 80 MHz	behavior criterion 1	
4-6						
field-based interferer	nce according to IEC 610	00-4-3	80 MHz 1 GHz 10 V/m, be	havior criterion 1		
electrostatic dischar	ge according to IEC 6100	0-4-2	4 kV contact discharging / 8	kV air discharging, b	ehavior criterion 2	
conducted HF interfe CISPR11	rence emissions accord	ing to	Class A for industrial environment			
field-bound HF interf	erence emission accord	ng to CISPR11	Class B for the domestic, but	siness and commerc	ial environments	
hort-circuit protection	n, design of the fuse link					
manufacturer's article	number					
 of gS fuse for se usable 	emiconductor protection at	NH design	<u>3NE1802-0: These fuses have a smaller rated current than the semiconductor relays</u>			
cylindrical design			5SE1335; These fuses have a smaller rated current than the semiconductor relays			
design usable	se link for semiconductor p		<u>3NE8017-1</u>	<u>3NE8017-1</u>		
cylindrical design	se link for semiconductor p 14 x 51 mm usable		<u>3NC1450</u>			
cylindrical design	se link for semiconductor p 22 x 58 mm usable	protection at	<u>3NC2250</u>			
manufacturer's article	0					
 at NH design us 	able		<u>3NA6807: These fuses have a smaller rated current than the semiconductor</u> relays			
 at cylindrical des 	sign 22 x 58 mm usable		<u>3NW6205-1: These fuses have a smaller rated current than the semiconductor</u> relays			
manufacturer's article	number					
 of DIAZED fuse 	usable		5SB2711: These fuses have a smaller rated current than the semiconductor			
			relays			
of NEOZED fuse usable		5SE2320: These fuses have a smaller rated current than the semiconductor relays				
ertificates/ approvals						
General Product App	proval			EMC	Declaration of Co formity	
	Confirmation			•	1.112	
(G)	Confirmation		гпг		UK	
QC		74	FAL	<u> </u>		
CSA		UR	6116	RCM	LH	
Declaration of Con- formity	Test Certificates	other				
"	<u>Type Test Certific-</u> ates/Test Report	Confirmation	1			
EG-Konf.	<u>aco/1031100000</u>					
urther information						

https://press.siemens.com/global/en/pressrelease/siemens-wind-down-russian-business Siemens is working on the renewal of the current EAC certificates. Please contact your local Siemens office on the status of validity of the EAC certification if you intend to import or offer to supply these products to an

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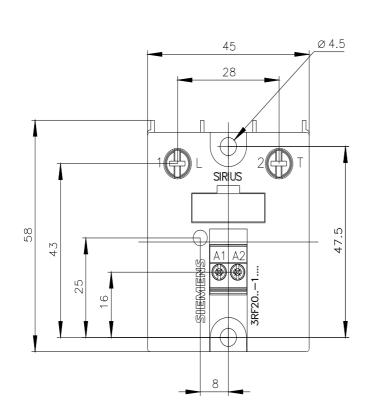
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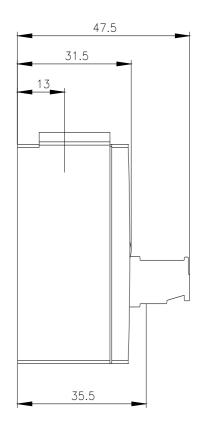
Cax online generator

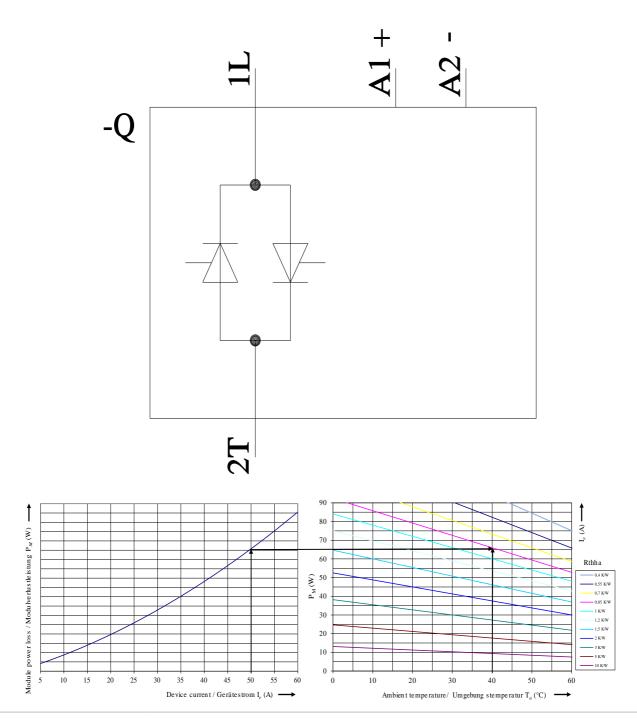
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