SLA7024M
SLA7026M WITH MOSFETs
SLA7027MU

■ Ratings

Absolute maximum ratings / Type No.	Motor supply Voltage (V) V_{CC}	FET output breakdown voltage (V) V_{DS}	Control voltage (V) V_S	TTL input voltage (V) V_{IN}	Reference voltage (V) V_{REF}	Output current (A) I_O	Power dissipation (W) P_D	Channel temperature (°C) T_{ch}	Storage temperature (°C) T_{stg}
SLA7024M	46	100	46	7	2	1.5	4.5 (No Fin)	150	–40 to +150
SLA7026M						3			
SLA7027MU						1			

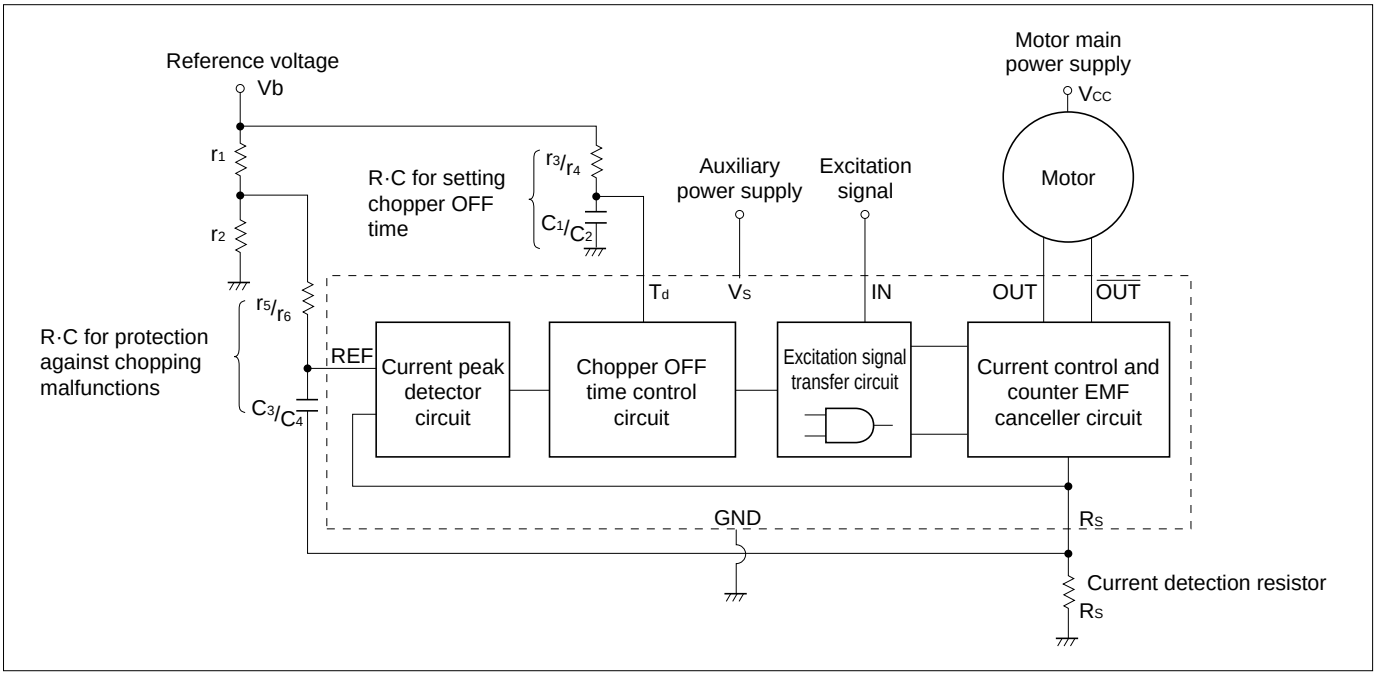
■ Characteristics (1) DC Characteristics

Electrical characteristics / Type No.	Control current (mA) I_S			Control voltage (V) V_S			FET turn-on voltage (V) V_{DS}			FET drain leak current (mA) I_{DSS}			TTL input current (µA) I_{IH}			TTL input current (mA) I_{IL}			TTL input voltage (Active high) (V) V_{IH}			TTL input voltage (Active low) (V) V_{IL}			TTL input voltage (Active high) (V) V_{IH}			TTL input voltage (Active low) (V) V_{IL}		
	V_S = 44V						(7024M)I_D = 1A, V_S = 14V (7026M)I_D = 3A, V_S = 14V (7027MU)I_D = 1A, V_S = 14V)			V_{DSS} = 100V V_S = 44V			V_{IH} = 2.4V V_S = 44V			V_{IL} = 0.4V V_S = 44V			(7024M)I_D=1A (7026M)I_D=3A (7027MU)I_D=1A			V_{DSS} = 100V			V_{DSS} = 100V			(7024M)I_D=1A (7026M)I_D=3A (7027MU)I_D=1A		
Type No.	min	typ	max	min	typ	max	min	typ	max	min	typ	max	min	typ	max	min	typ	max	min	typ	max	min	typ	max	min	typ	max	min	typ	max
SLA7024M		10	15	10	24	44			0.6			4			40			–0.8	2.0					0.8	2.0					0.8
SLA7026M									0.85																					
SLA7027MU									0.85																					

(2) AC Characteristics

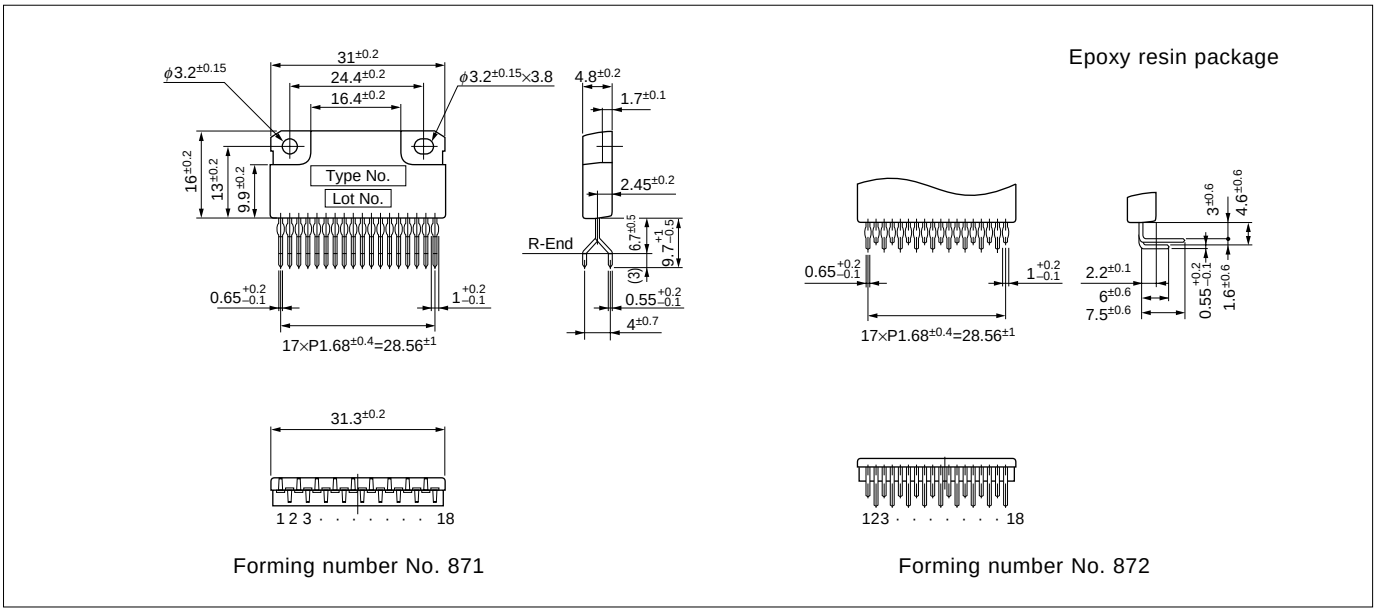
Electrical characteristics / Type No.	FET diode forward voltage (V) V_{SD}			Switching time (µs) T_r			T_{stg}			T_f		
	(7024M)I_{SD} = 1A (7026M)I_{SD} =3A (7027MU)I_{SD} = 1A			V_S = 24V (7024M, 7026M)I_D = 1A (727MU)I_D = 0.8A								
Type No.	min	typ	max	min	typ	max	min	typ	max	min	typ	max
SLA7024M			1.1		0.5			0.7			0.1	
SLA7026M			2.3									
SLA7027MU			1.2									

■ Block diagram

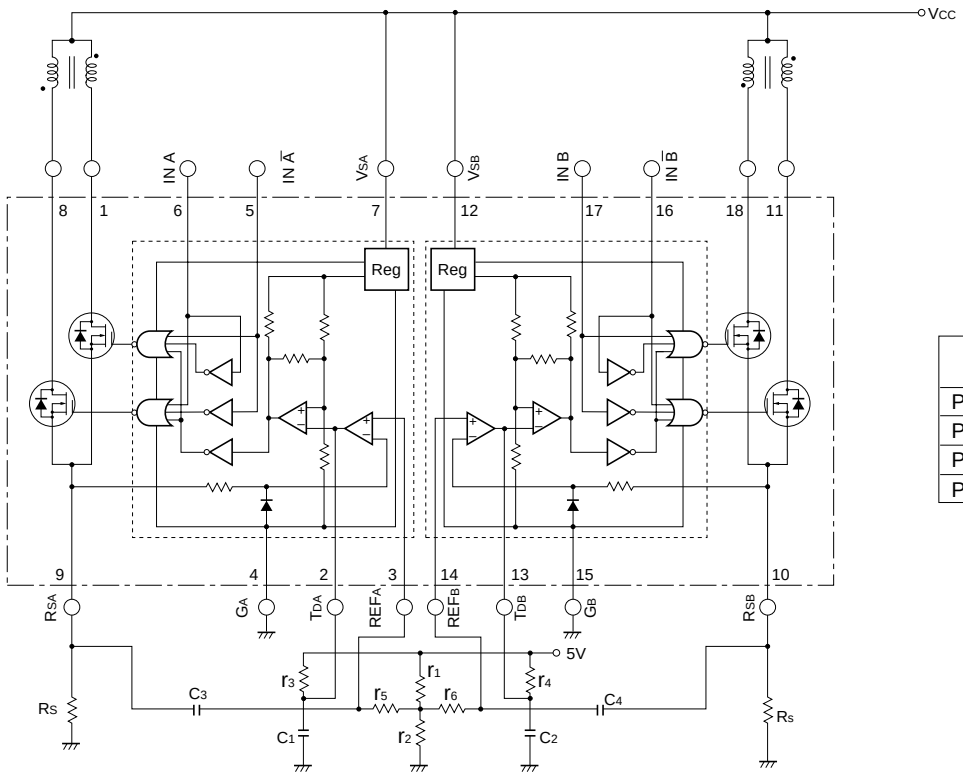


■ External dimensions

(Unit: mm)



■ Internal circuit diagram (enclosed with chain line)

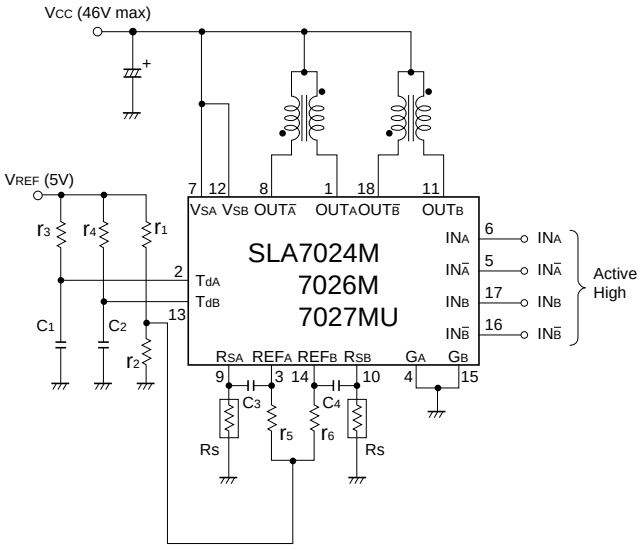


Description of Pins
1, 8, 11 and 18

	Excitation input	
	Active H	Active L
Pin 1	OUT_A	$OUT_{\bar{A}}$
Pin 8	$OUT_{\bar{A}}$	OUT_A
Pin 11	OUT_B	$OUT_{\bar{B}}$
Pin 18	$OUT_{\bar{B}}$	OUT_B

■ Diagram of standard external circuit (Recommended circuit constants)

Active High



Excitation signal time chart
2-phase excitation

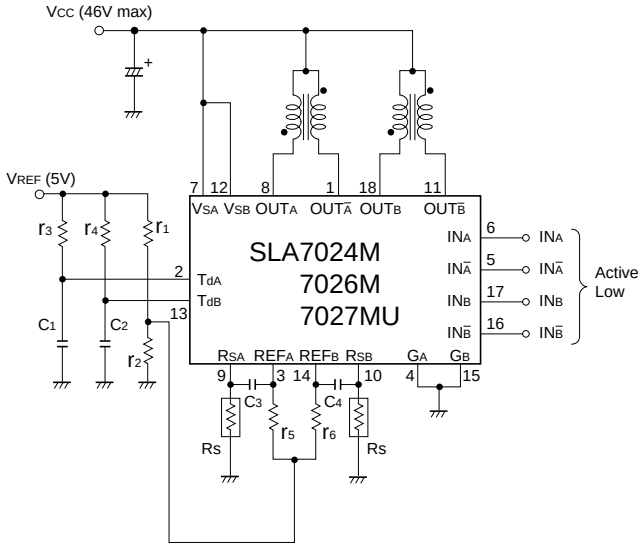
clock	0	1	2	3	0	1
IN_A	H	L	L	H	H	L
$IN_{\bar{A}}$	L	H	H	L	L	H
IN_B	H	H	L	L	H	H
$IN_{\bar{B}}$	L	L	H	H	L	L

1-2 phase excitation

clock	0	1	2	3	4	5	6	7	0	1	2	3
IN_A	H	H	L	L	L	L	L	H	H	H	L	L
$IN_{\bar{A}}$	L	L	L	H	H	H	L	L	L	L	L	H
IN_B	L	H	H	H	L	L	L	L	L	H	H	H
$IN_{\bar{B}}$	L	L	L	L	L	H	H	H	L	L	L	L

r_1 510Ω
r_2 100Ω (VR)
r_3 47kΩ
r_4 47kΩ
r_5 2.4kΩ
r_6 2.4kΩ
C_1 470pF
C_2 470pF
C_3 2200pF
C_4 2200pF
R_S 1Ω(typ)1~2W(7024M)
0.68Ω(typ)1~2W(7026M)
1.8Ω(typ)1~2W(7027MU)

Active Low



Excitation signal time chart
2-phase excitation

clock	0	1	2	3	0	1
IN_A	L	H	H	L	L	H
$IN_{\bar{A}}$	H	L	L	H	H	L
IN_B	L	L	H	H	L	L
$IN_{\bar{B}}$	H	H	L	L	H	H

1-2 phase excitation

clock	0	1	2	3	4	5	6	7	0	1	2	3
IN_A	L	L	H	H	H	H	H	L	L	L	H	H
$IN_{\bar{A}}$	H	H	H	L	L	L	H	H	H	H	H	L
IN_B	H	L	L	L	H	H	H	H	H	L	L	L
$IN_{\bar{B}}$	H	H	H	H	H	L	L	L	H	H	H	H

r_1 510Ω
r_2 100Ω (VR)
r_3 47kΩ
r_4 47kΩ
r_5 2.4kΩ
r_6 2.4kΩ
C_1 470pF
C_2 470pF
C_3 2200pF
C_4 2200pF
R_S 1Ω(typ)1~2W(7024M)
0.68Ω(typ)1~2W(7026M)
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