

Unipolar Driver ICs

SLA7020M SLA7021M WITH MOSFETs

■ Ratings

| Absolute maximum ratings | Motor supply Voltage | FET output breakdown voltage | Control voltage | TTL input voltage | Reference voltage | Output current | Power dissipation | Channel temperature | Storage temperature |
|--------------------------|----------------------|------------------------------|-----------------|-------------------|-------------------|----------------|-------------------|---------------------|---------------------|
| | (V) | (V) | (V) | (V) | (V) | (A) | (W) | (°C) | (°C) |
| Type No. | V _{CC} | V _{DS} | V _S | V _{IN} | V _{REF} | I _O | P _D | T _{ch} | T _{stg} |
| SLA7020M | 46 | 100 | 32 | 7 | 2 | 1.5 | 4.5 (No Fin) | 150 | -40 to +150 |
| SLA7021M | | | | | | 3 | | | |

■ Characteristics (1) DC Characteristics

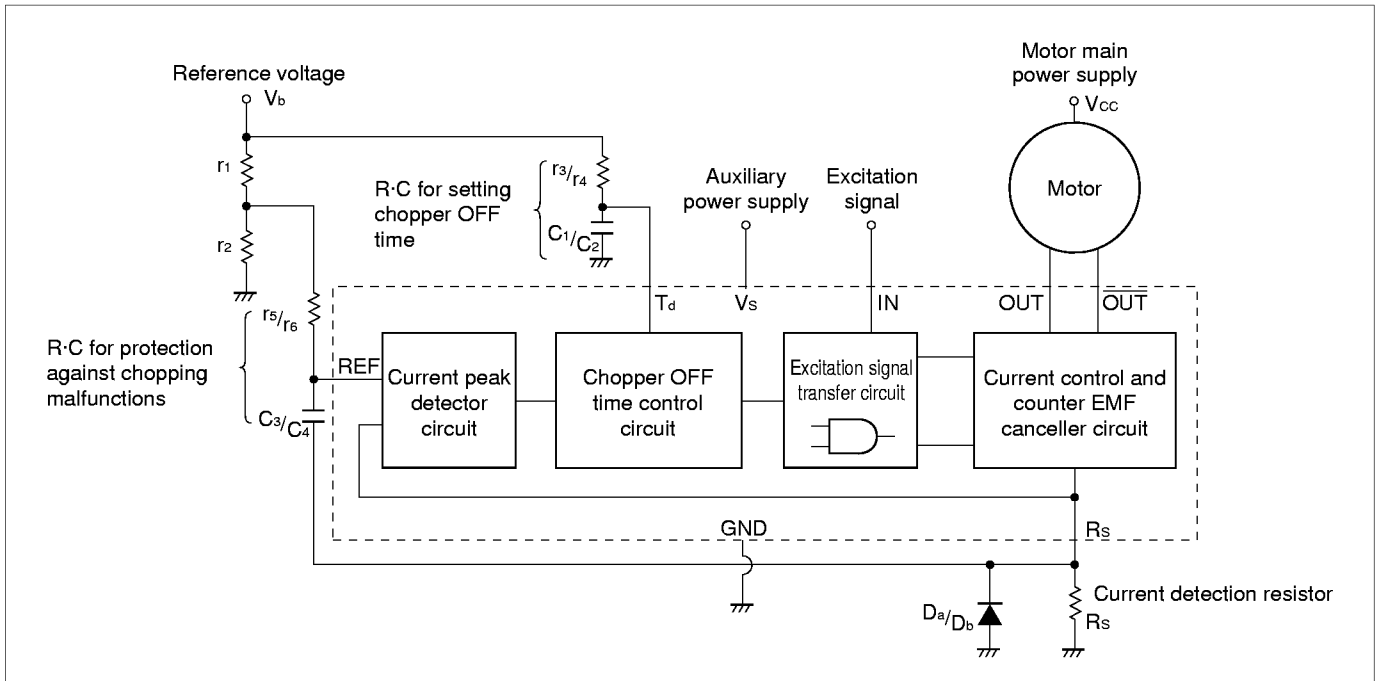
| Electrical characteristics | Control current (mA) | | | Control voltage (V) | | | FET turn-on voltage (V) | | | FET drain leak current (mA) | | | TTL input current (μA) | | | TTL input current (mA) | | | TTL input voltage (OUT) (V) | | | TTL input voltage (V) | | | TTL input voltage (OUT) (V) | | | TTL input voltage (V) | | | | | |
|----------------------------|----------------------|-----|-----|---------------------|-----|-----|-------------------------|-----|-----|--|-----|------|---|-----|-----|--|-----|-----|--|-----|------|-----------------------|-----|-----|-----------------------------|-----|-----|-------------------------|-----|-----|---------------------|-----|-----|
| | V _S = 30V | | | | | | | | | (7020M) I _O = 1A, V _S = 14V (7021M) I _O = 3A, V _S = 14V | | | V _{DSS} = 100V V _S = 30V | | | V _{IH} = 2.4V V _S = 30V | | | V _{IL} = 0.4V V _S = 30V | | | I _O = 1A | | | V _{DSS} = 100V | | | V _{DSS} = 100V | | | I _O = 1A | | |
| | I _S | | | V _S | | | V _{DS} | | | I _{DSS} | | | I _{IH} | | | I _{IL} | | | V _{IH} | | | V _{IL} | | | V _{IH} | | | V _{IL} | | | | | |
| 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 | min | typ | max |
| SLA7020M | 5.5 | 10 | 15 | 10 | 19 | 30 | | | | | | 0.6 | | | 4 | | | 40 | | | -0.8 | 2.0 | | | | 0.8 | 2.0 | | | | | | 0.8 |
| SLA7021M | | | | | | | | | | | | 0.85 | | | | | | | | | | | | | | | | | | | | | |

(2) AC Characteristics

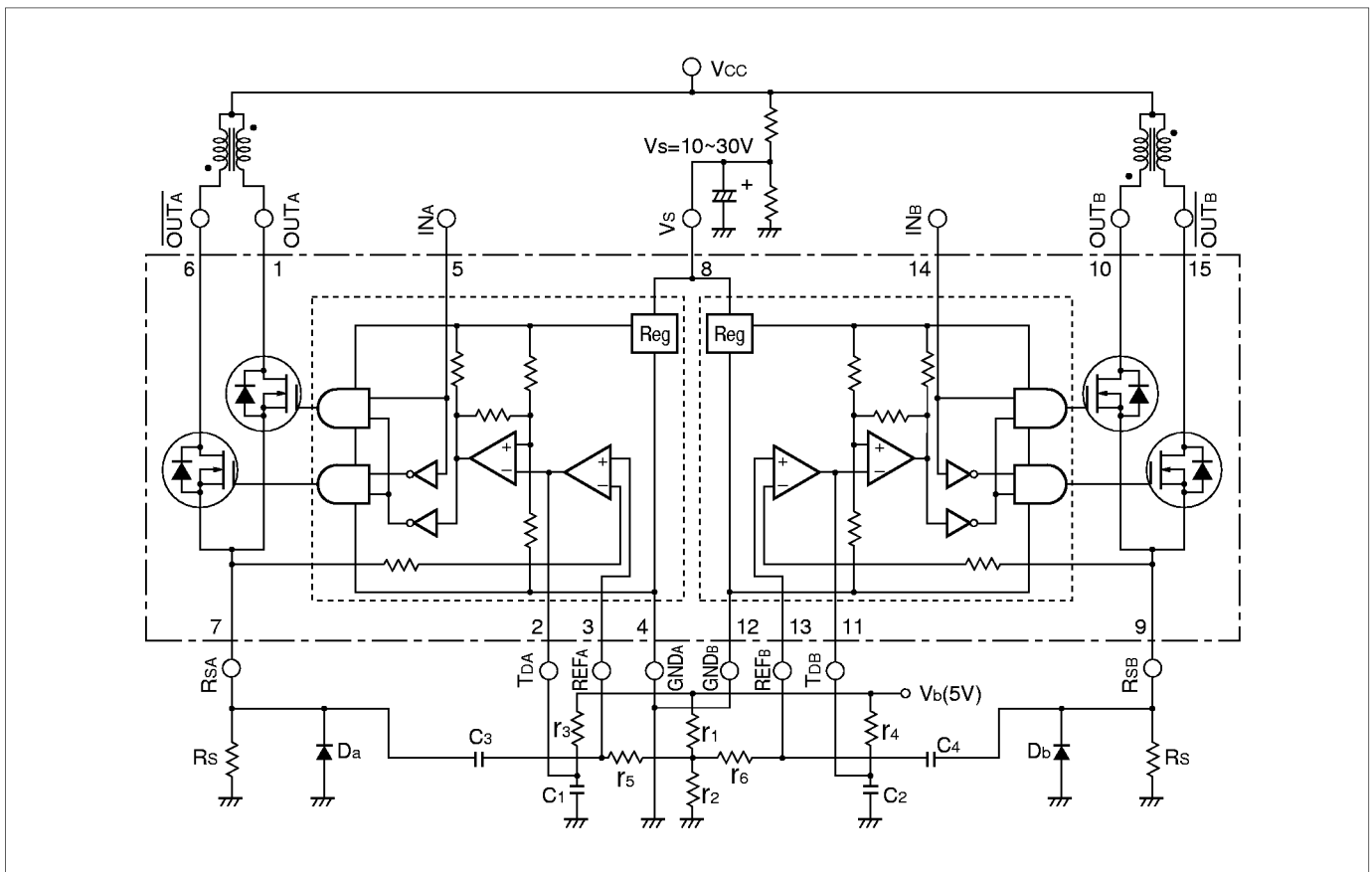
| Electrical characteristics | FET diode forward voltage (V) | | | Switching time (μs) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|----------------------------|-------------------------------|-----|-----|---------------------|-----|-----|-----|-----|-----|----------------|-----|-----|------------------|-----|-----|----------------|-----|-----|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|
| | V _{SD} | | | | | | | | | T _r | | | T _{stg} | | | T _r | | | | | | | | | | | | | | | | | |
| | min | typ | max | min | typ | max | min | typ | max | min | typ | max | min | typ | max | min | typ | max | | | | | | | | | | | | | | | |
| Type No. | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| SLA7020M | | | 1.1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| SLA7021M | | | 2.3 | | | | 0.5 | | | | | | 0.7 | | | | | | | | | | | | | | | | | | | | |

SLA7020M and SLA7021M

■ Block diagram

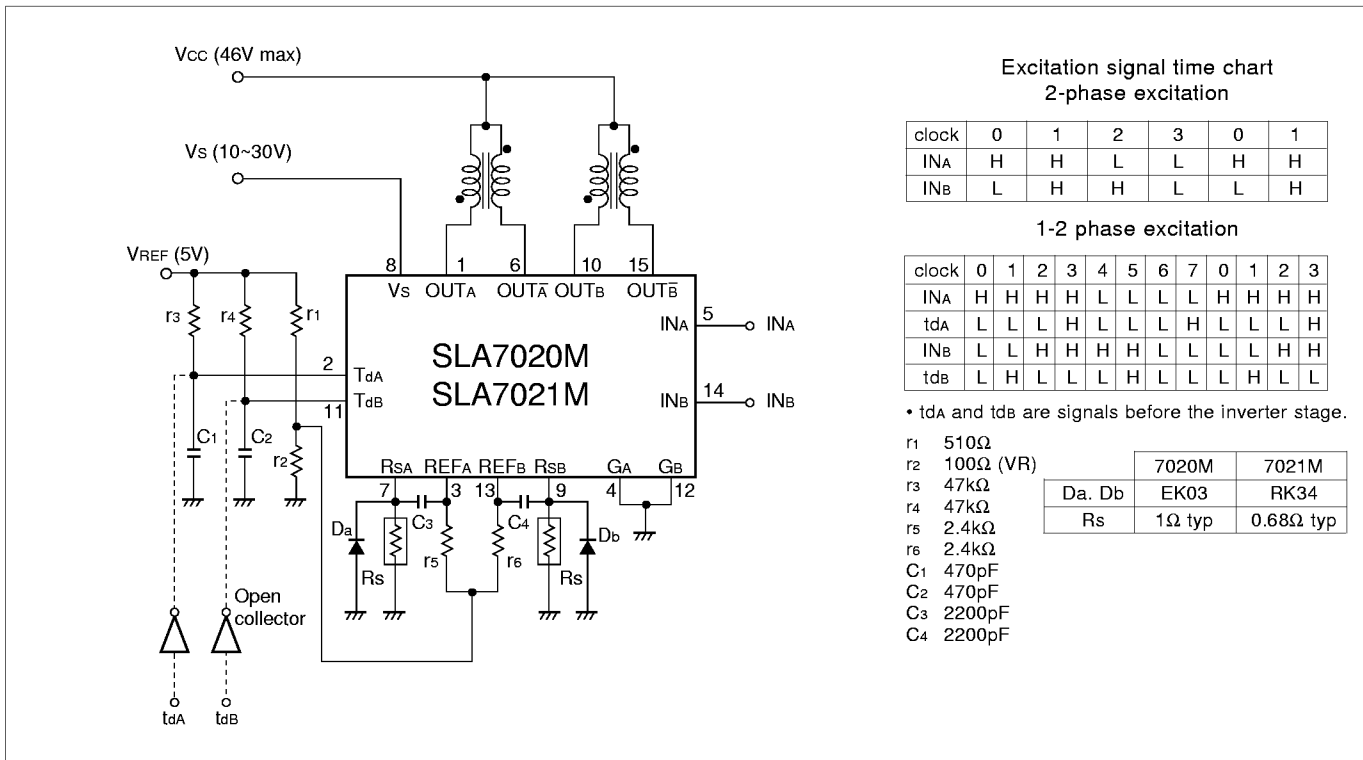


■ Internal circuit diagram (enclosed with chain line)



SLA7020M and SLA7021M

■ Diagram of standard external circuit (Recommended circuit constants)



■ External dimensions

(Unit: mm)

