

# Unipolar Driver ICs

# SLA7022MU SLA7029M

## WITH MOSFETs

### ■ Ratings

Type No.	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)	(V)	(A)	(W)	(°C)	(°C)
SLA7022MU	$V_{CC}$	$V_{DS}$	$V_S$	$V_{IN}$	$V_{REF}$	$I_O$	$P_D$	$T_{ch}$	$T_{stg}$	
SLA7029M	46	100	46	7	2	1	4.5 (No Fin)	150	-40 to +150	
						1.5				

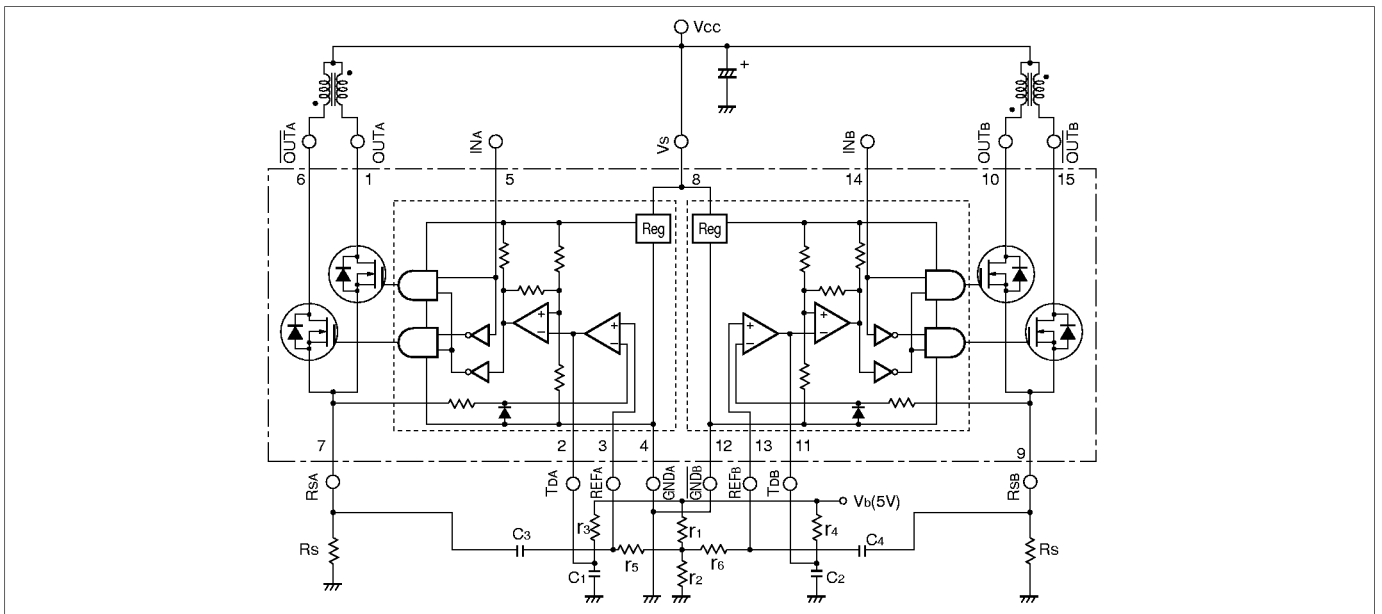
### ■ Characteristics (1) DC Characteristics

Type No.	Control current (mA)			Control voltage (V)			FET turn-on voltage (V)			FET drain leak current (mA)			TTL input current ( $\mu$ A)			TTL input current (mA)			TTL input voltage (OUT) (V)			TTL input voltage (V)			TTL input voltage (OUT) (V)			TTL input voltage (V)				
	$V_S = 44V$			$V_S$			$I_D = 1A, V_S = 14V$			$V_{DSS} = 100V, V_S = 44V$			$V_{IH} = 2.4V, V_S = 44V$			$V_{IL} = 0.4V, V_S = 44V$			$I_D = 1A$			$V_{DSS} = 100V$			$V_{DSS} = 100V$			$I_D = 1A$				
	$I_S$			$V_S$			$V_{DS}$			$I_{DSS}$			$I_{IH}$			$I_{IL}$			$V_{IH}$			$V_{IL}$			$V_{IH}$			$V_{IL}$				
	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
SLA7022MU	10	15	10	24	44			0.85			4			40			-0.8	2.0					0.8	2.0							0.8	
SLA7029M								0.6																								

### (2) AC Characteristics

Type No.	FET diode forward voltage (V)			Switching time ( $\mu$ s)								
	$I_{SD} = 1A$			$V_S = 24V$ (7022MU) $I_D = 0.8A$ (7029M) $I_D = 1A$								
	$V_{SD}$			$T_r$			$T_{stg}$			$T_f$		
min	typ	max	min	typ	max	min	typ	max	min	typ	max	
SLA7022MU			1.2	0.5			0.7			0.1		
SLA7029M			1.1									

### ■ Internal circuit diagram (enclosed with chain line)



# SLA7022MU and SLA7029M

## ■ Diagram of standard external circuit (Recommended circuit constants)

The diagram shows the internal and external components of the SLA7022MU and SLA7029M. Key components include a 46V max Vcc supply, a 5V VREF reference, feedback resistors (r1-r6), capacitors (C1-C4), and sense resistors (Rs). The chip has pins for Vs, OUTA, OUTA-bar, OUTB, OUTB-bar, INA, INB, TdA, TdB, RSA, REFA, REFB, RSB, GA, GB, and Db. Two inverter stages are shown at the bottom left, with open collector outputs tDA and tDB.

**Excitation signal time chart**  
2-phase excitation

clock	0	1	2	3	0	1
INA	H	H	L	L	H	H
INB	L	H	H	L	L	H

**1-2 phase excitation**

clock	0	1	2	3	4	5	6	7	0	1	2	3
INA	H	H	H	H	L	L	L	L	H	H	H	H
tdA	L	L	L	H	L	L	L	H	L	L	L	L
INB	L	L	H	H	H	H	L	L	L	L	L	H
tdB	L	H	L	L	L	H	L	L	L	H	L	L

• tDA and tDB are signals before the inverter stage.

- r1 510Ω
- r2 100Ω (VR)
- r3 47kΩ
- r4 47kΩ
- r5 2.4kΩ
- r6 2.4kΩ
- C1 330~500pF
- C2 330~500pF
- C3 2200pF
- C4 2200pF
- Rs 1.8Ω(typ)1~2W(7022MU)  
1Ω(typ)1~2W(7029M)

## ■ External dimensions

(Unit: mm)

The diagram shows the external dimensions for two epoxy resin packages. The left package (Forming number No. 853) has a 14-pin P2.03 pitch. The right package (Forming number No. 855) has a 15-pin P2.03 pitch. Dimensions include package width, height, pin spacing, and lead lengths.

**Epoxy resin package**

**Forming number No. 853**

**Forming number No. 855**