

# UNA0232

Transistor array to drive the small motor

## ■ Features

- Small and lightweight
- Low power consumption
- Low-voltage drive
- With 4 elements incorporated

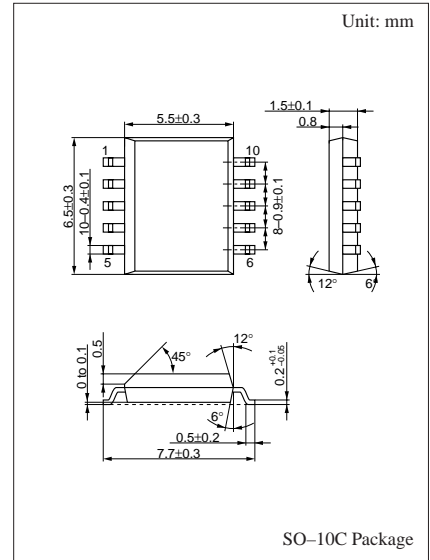
## ■ Applications

- For motor drives
- Small motor drive circuits in general

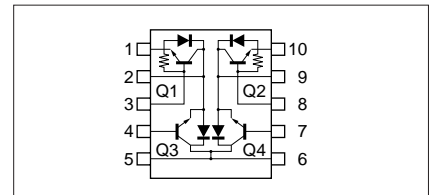
## ■ Absolute Maximum Ratings (Ta=25±3°C)

Parameter	Symbol	Rated	Unit
Collector to base voltage	$V_{CBO}$	12	V
Collector to emitter voltage	$V_{CEO}$	10	V
Emitter to base voltage	$V_{EBO}$	7	V
Collector current	$I_C$	1	A
Peak collector current	$I_{CP}$	2	A
Total power dissipation	$P_T^*$	0.5	W
Junction temperature	$T_j$	150	°C
Storage temperature	$T_{sig}$	-55 to +150	°C

\*  $T_C = 25^\circ\text{C}$  only when the elements are active



## Internal Connection



### ■ Electrical Characteristics (T<sub>a</sub>=25°C)

#### ● UN0232 (Q<sub>1</sub>, Q<sub>2</sub>)

Parameter	Symbol	Conditions	min	typ	max	Unit
Collector to base voltage	V <sub>CBO</sub>	I <sub>C</sub> = 10μA, I <sub>E</sub> = 0	12			V
Collector to emitter voltage	V <sub>CEO</sub>	I <sub>C</sub> = 0.1mA, I <sub>B</sub> = 0	10			V
Emitter cutoff current	I <sub>EBO</sub>	V <sub>EB</sub> = 5V, I <sub>C</sub> = 0	0.8		1.6	mA
Collector cutoff current	I <sub>CBO</sub>	V <sub>CB</sub> = 10V, I <sub>E</sub> = 0			1	μA
Forward current transfer ratio	h <sub>FE</sub>	V <sub>CE</sub> = 1V, I <sub>C</sub> = 0.5A*	200		700	
Collector to emitter saturation voltage	V <sub>CE(sat)</sub>	I <sub>C</sub> = 0.5A, I <sub>B</sub> = 25mA*		0.1	0.15	V
Bias resistance	R <sub>EB</sub>		3.3	4.7	6.1	kΩ
Forward voltage	V <sub>F</sub>	I <sub>F</sub> = 1A			1.5	V

#### ● UN0232 (Q<sub>3</sub>, Q<sub>4</sub>)

Parameter	Symbol	Conditions	min	typ	max	Unit
Collector to base voltage	V <sub>CBO</sub>	I <sub>C</sub> = 10μA, I <sub>E</sub> = 0	12			V
Collector to emitter voltage	V <sub>CEO</sub>	I <sub>C</sub> = 0.1mA, I <sub>B</sub> = 0	10			V
Emitter to base voltage	V <sub>EBO</sub>	I <sub>E</sub> = 10μA, I <sub>C</sub> = 0	7			V
Collector cutoff current	I <sub>CBO</sub>	V <sub>CB</sub> = 10V, I <sub>E</sub> = 0			1	μA
Forward current transfer ratio	h <sub>FE</sub>	V <sub>CE</sub> = 1V, I <sub>C</sub> = 0.5A*	200		700	
Collector to emitter saturation voltage	V <sub>CE(sat)</sub>	I <sub>C</sub> = 0.5A, I <sub>B</sub> = 25mA*		0.1	0.15	V
Forward voltage	V <sub>F</sub>	I <sub>F</sub> = 1A			1.5	V

\*Pulse measurement