UNA0227 (UN227)

Transistor array to drive the small motor

Features

- Small and lightweight
- Low power consumption
- Low-voltage drive
- With 8 elements incorporated

Applications

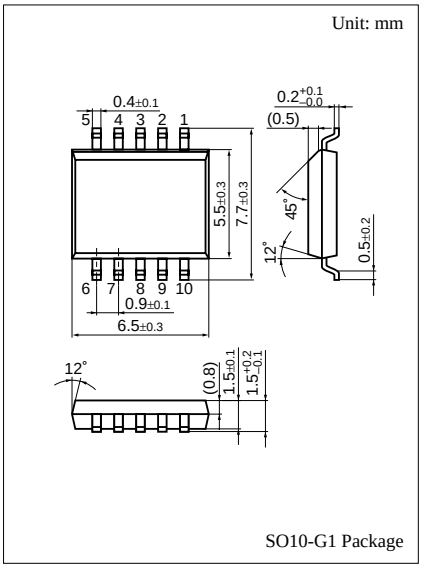
- For motor drives
- Small motor drive circuits in general

Absolute Maximum Ratings (Ta=25±3˚C)

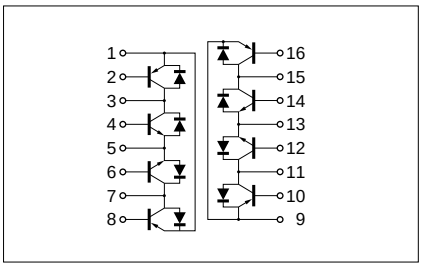
Parameter	Symbol	Ratings	Unit
Collector to base voltage	V_{CBO}	±10	V
Collector to emitter voltage	V_{CEO}	±10	V
Emitter to base voltage	V_{EBO}	±7	V
Collector current	I_C	±1.5	A
Peak collector current	I_{CP}	±2	A
Total power dissipation	P_T*	0.5	W
Junction temperature	T_j	150	˚C
Storage temperature	T_{stg}	–55 to +150	˚C

Note: ± marks used above: +: NPN part, –: PNP part

* T_C = 25˚C only when the elements are active



Internal Connection



Note.) The Part number in the Parenthesis shows conventional part number.

■ Electrical Characteristics (Ta=25˚C)

Parameter	Symbol	Conditions	min	typ	max	Unit
Collector to base voltage	V_{CBO}	(NPN) I_C = 10μA, I_E = 0	10			V
		(PNP) I_C = –10μA, I_E = 0	–10			
Collector to emitter voltage	V_{CEO}	(NPN) I_C = 1mA, I_B = 0	10			V
		(PNP) I_C = –1mA, I_B = 0	–10			
Emitter to base voltage	V_{EBO}	(NPN) I_E = 10μA, I_C = 0	7			V
		(PNP) I_E = –10μA, I_C = 0	–7			
Collector cutoff current	I_{CBO}	(NPN) V_{CB} = 7V, I_E = 0			1	μA
		(PNP) V_{CB} = –7V, I_E = 0			–1	
Collector cutoff current	I_{CEO}	(NPN) V_{CE} = 10V, I_B = 0			2	μA
		(PNP) V_{CE} = –10V, I_B = 0			–2	
Forward current transfer ratio	h_{FE}	(NPN) V_{CE} = 1V, I_C = 400mA*	200		700	
		(PNP) V_{CE} = –1V, I_C = –400mA*	200		700	
Collector to emitter saturation voltage	$V_{CE(sat)}$	(NPN) I_C = 1A, I_B = 25mA*			0.25	V
		(PNP) I_C = –1A, I_B = –25mA*			– 0.35	
Transition frequency	f_T	(NPN) V_{CB} = 6V, I_E = –50mA, f = 200MHz		120		MHz
		(PNP) V_{CB} = –6V, I_E = 50mA, f = 200MHz		120		
Collector output capacitance	C_{ob}	(NPN) V_{CB} = 6V, I_E = 0, f = 1MHz		25		pF
		(NPN) V_{CB} = –6V, I_E = 0, f = 1MHz		35		
Forward voltage	V_F	(NPN) I_F = 0.5A			1.3	V
		(PNP) I_F = – 0.5A			–1.3	

*Pulse measurement

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