

UN217

Transistor array to drive the small motor

■ Features

- Small and lightweight
- Low power consumption (low $V_{CE(sat)}$ transistor used)
- Low-voltage drive
- With 4 elements incorporated (SO-10C)

■ Applications

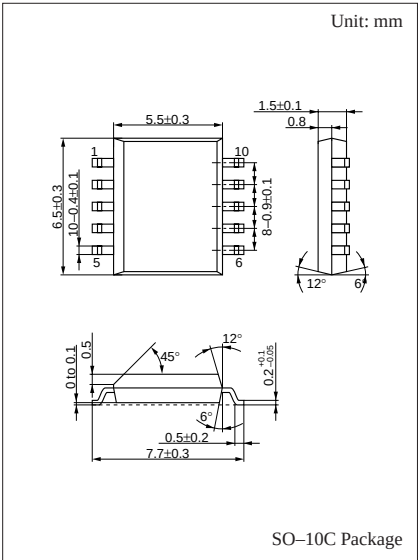
- Video cameras
- Cameras
- Portable CD players
- Small motor drive circuits in general for electronic equipment.

■ Absolute Maximum Ratings ($T_a=25\pm2^\circ\text{C}$)

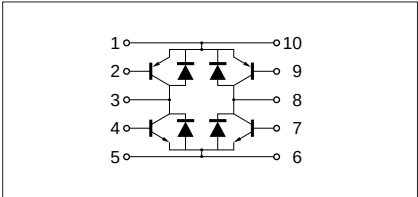
Parameter	Symbol	Ratings	Unit
Collector to base voltage	V_{CBO}	± 12	V
Collector to emitter voltage	V_{CEO}	± 10	V
Emitter to base voltage	V_{EBO}	± 7	V
Collector current	I_C	± 1	A
Total power dissipation	P_T^*	0.5	W
Junction temperature	T_j	150	$^\circ\text{C}$
Storage temperature	T_{stg}	-55 to +150	$^\circ\text{C}$

Note: $\pm$ marks used above: +: NPN part, -: PNP part

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



Internal Connection

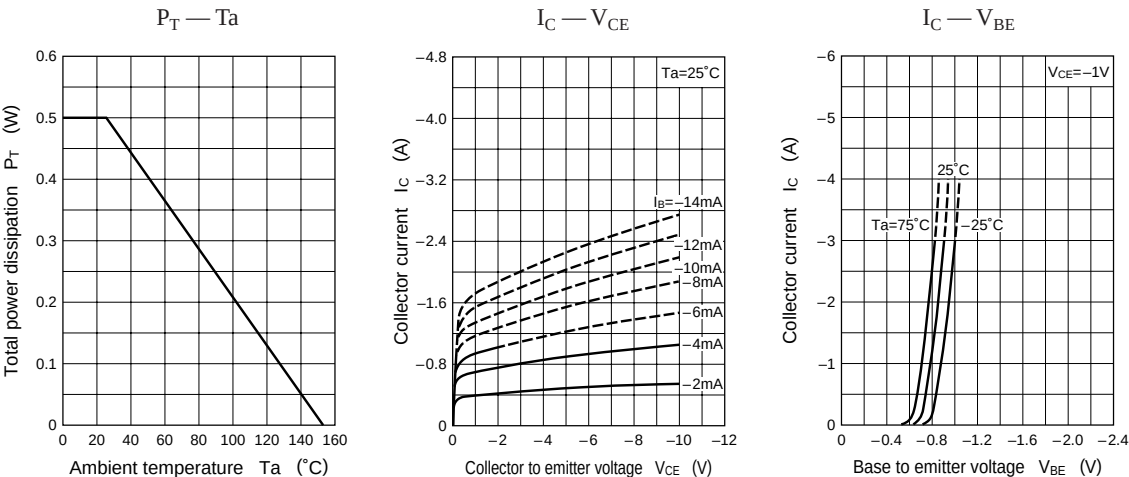


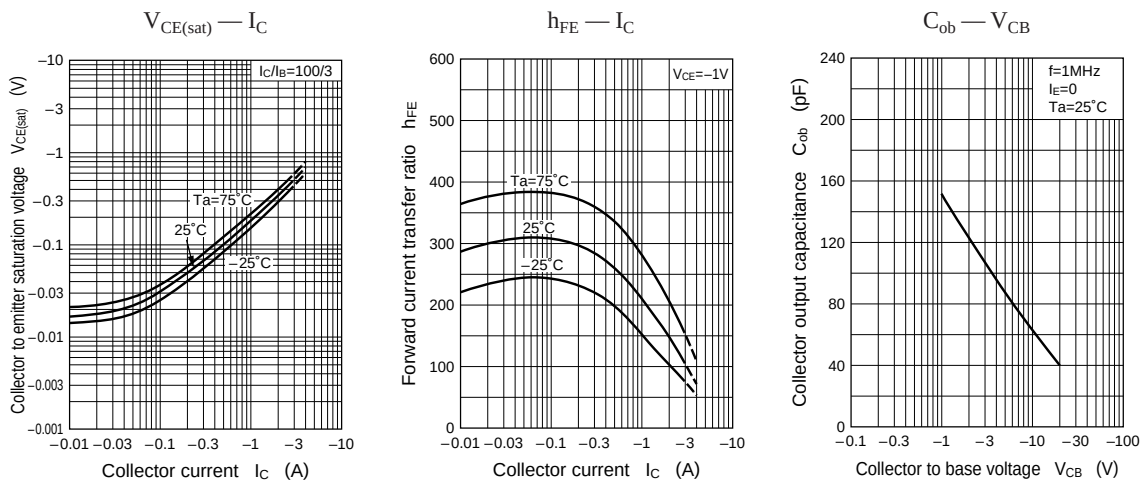
■ Electrical Characteristics (Ta=25±2°C)

Parameter	Symbol	Conditions	min	typ	max	Unit
Collector cutoff current	I_{CBO}	(NPN) $V_{CB} = 10V$			1	μA
		(PNP) $V_{CB} = -10V$			-1	
Collector to base voltage	V_{CBO}	(NPN) $I_C = 10\mu A$	12			V
		(PNP) $I_C = -10\mu A$	-12			
Collector to emitter voltage	V_{CEO}	(NPN) $I_C = 1mA$	10			V
		(PNP) $I_C = -1mA$	-10			
Emitter to base voltage	V_{EBO}	(NPN) $I_E = 10\mu A$	7			V
		(PNP) $I_E = -10\mu A$	-7			
Forward current transfer ratio	h_{FE}	(NPN) $V_{CE} = 1V, I_C = 0.5A^*$	200		800	
		(PNP) $V_{CE} = -1V, I_C = -0.5A^*$	200		800	
Collector to emitter saturation voltage	$V_{CE(sat)1}$	(NPN) $I_C = 1A, I_B = 30mA$			0.3	V
		(PNP) $I_C = -1A, I_B = -30mA$			-0.3	
Transition frequency	f_T	(NPN) $V_{CB} = 6V, I_E = -50mA, f = 200MHz$		150		MHz
		(PNP) $V_{CB} = -6V, I_E = 50mA, f = 200MHz$		150		
Collector output capacitance	C_{ob}	(NPN) $V_{CB} = 10V, I_E = 0, f = 1MHz$		50		pF
		(PNP) $V_{CB} = -10V, I_E = 0, f = 1MHz$		65		
Forward voltage (DC)	V_F	(NPN) $I_F = 1A$			1.5	V
		(PNP) $I_F = -1A$			-1.5	

*Pulse measurement

Characteristics charts of PNP transistor block





Characteristics charts of NPN transistor block

