

UN225

Transistor array to drive the small motor

■ Features

- Small and lightweight
- Low power consumption (low $V_{CE(sat)}$ transistor used)
- Low-voltage drive
- With 8 elements incorporated (SO-16)

■ Applications

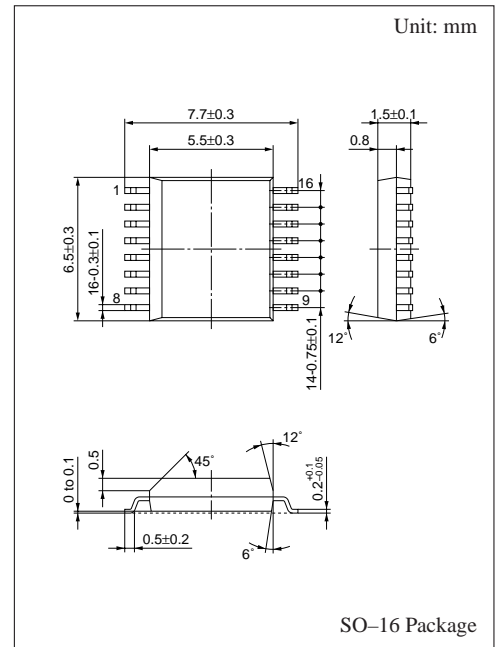
- Video cameras
- Cameras
- Portable CD players
- Small motor drive circuits in general for electronic equipment.

■ Absolute Maximum Ratings ($T_a=25\pm 2^\circ\text{C}$)

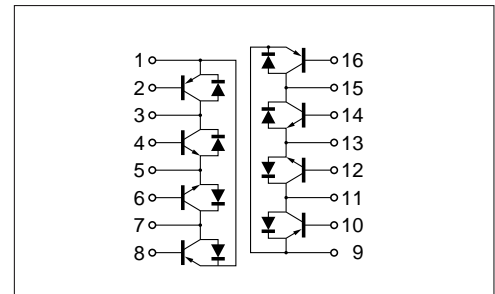
Parameter	Symbol	Ratings	Unit
Collector to base voltage	V_{CBO}	± 10	V
Collector to emitter voltage	V_{CEO}	± 10	V
Emitter to base voltage	V_{EBO}	± 7	V
Collector current	I_C	± 0.5	A
Total power dissipation	P_T^*	0.5	W
Junction temperature	T_j	150	$^\circ\text{C}$
Storage temperature	T_{stg}	-55 to +150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

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

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



Internal Connection

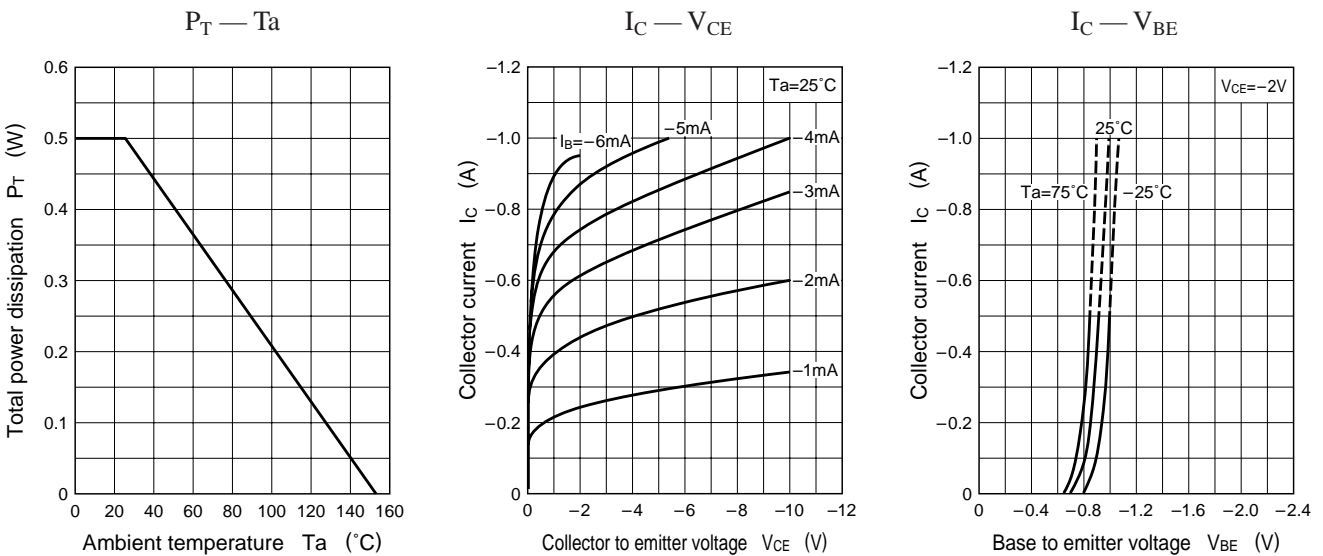


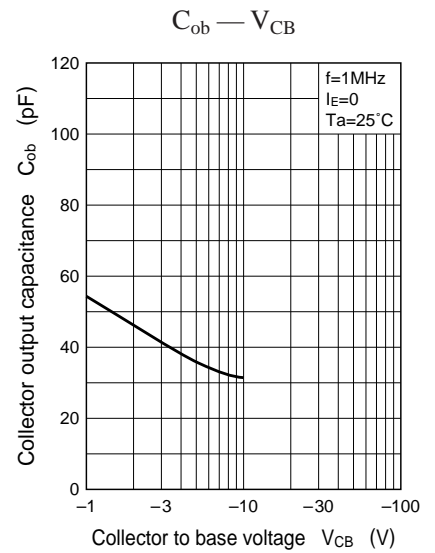
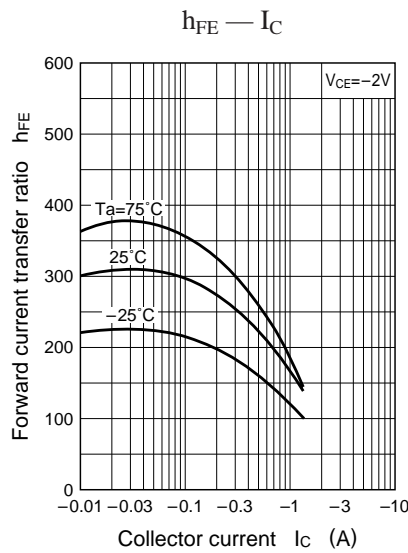
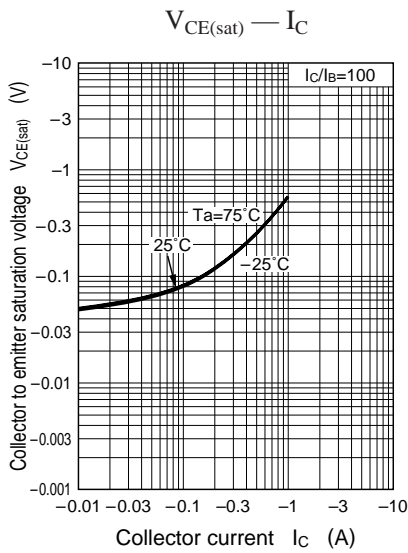
■ Electrical Characteristics (Ta=25±2°C)

Parameter	Symbol	Conditions	min	typ	max	Unit
Collector cutoff current	I _{CBO}	(NPN) V _{CB} = 7V			1	μA
		(PNP) V _{CB} = -7V			-1	
Collector to base voltage	V _{CBO}	(NPN) I _C = 10μA	10			V
		(PNP) I _C = -10μA	-10			
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 = 10μA	7			V
		(PNP) I _E = -10μA	-7			
Forward current transfer ratio	h _{FE}	(NPN) V _{CE} = 2V, I _C = 0.2A*	200		800	
		(PNP) V _{CE} = -2V, I _C = -0.2A*	200		800	
Collector to emitter saturation voltage	V _{CE(sat)1}	(NPN) I _C = 0.2A, I _B = 2mA			0.2	V
		(PNP) I _C = -0.2A, I _B = -2mA			-0.2	
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
		(PNP) V _{CB} = -6V, I _E = 0, f = 1MHz		35		
Forward voltage (DC)	V _F	(NPN) I _F = 0.5A			1.3	V
		(PNP) I _F = -0.5A			-1.3	

*Pulse measurement

Characteristics charts of PNP transistor block





Characteristics charts of NPN transistor block

