



MJE13003

NPN SILICON TRANSISTOR

FEATURES

Power dissipation

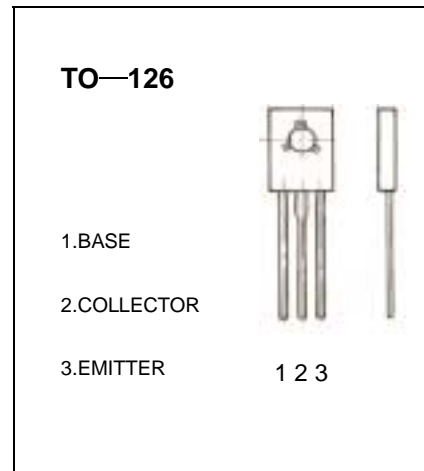
$$P_{CM} : 1.25 \text{ W} \quad (T_{amb}=25^\circ\text{C})$$

Collector current

$$I_{CM} : 1.5 \text{ A}$$

Collector-base voltage

$$V_{(BR)CBO} : 700 \text{ V}$$



ELECTRICAL CHARACTERISTICS (T_{amb}=25°C unless otherwise specified)

Parameter	Symbol	Test conditions	MIN	TYP	MAX	UNIT
Collector-base breakdown voltage	$V_{(BR)CBO}$	$I_C=1000\mu\text{A}, I_E=0$	700			V
Collector-emitter breakdown voltage	$V_{(BR)CEO}$	$I_C=10\text{mA}, I_B=0$	400			V
Emitter-base breakdown voltage	$V_{(BR)EBO}$	$I_E=1000\mu\text{A}, I_C=0$	9			V
Collector cut-off current	I_{CBO}	$V_{CB}=700\text{V}, I_E=0$			1000	μA
Collector cut-off current	I_{CEO}	$V_{CE}=400\text{V}, I_B=0$			500	μA
Emitter cut-off current	I_{EBO}	$V_{EB}=9\text{V}, I_C=0$			1000	μA
DC current gain(note)	$H_{FE(1)}$	$V_{CE}=10\text{V}, I_C=150\text{mA}$	8		40	
	$H_{FE(2)}$	$V_{CE}=10\text{V}, I_C=0.5\text{mA}$	5			
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C=1000\text{mA}, I_B=250\text{mA}$			1	V
Base-emitter saturation voltage	$V_{BE(sat)}$	$I_C=1000\text{mA}, I_B=250\text{mA}$			1.2	V
Base-emitter voltage	V_{BE}	$I_E=2000\text{mA}$			3	V
Transition frequency	f_T	$V_{CE}=10\text{V}, I_C=100\text{mA}$ $f=1\text{MHz}$	5			MHz
Fall time	t_f	$I_C=1\text{A}, I_{B1}=-I_{B2}=0.2\text{A}$			0.5	μs
Storage time	t_s	$V_{CC}=100\text{V}$			2.5	μs

CLASSIFICATION OF $H_{FE(1)}$

Rank						
Range	8-15	15-20	20-25	25-30	30-35	35-40