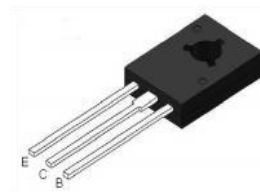




1.Features

- High speed Switching
- Suitable for Switching Regulator and Motor Control

Case:TO-126



2.Mechanical Data

- Case:Molded Plastic,TO-126
- Epoxy:UL 94V-0 rate flame retardant
- Terminals:Plated Leads Solderable per MIL-STD-750,Method-2026.
- Marking: marked on body.
- Mounting Position : Any.

3.Maximum Ratings and Electrical Characteristics

Rating at 25°C Ambient temperature unless otherwise specified

Parameters	Symbol	Value	Unit
Collector-Base Voltage	V_{CBO}	700	V
Collector-Emitter Voltage	V_{CEO}	400	V
Emitter-Base Voltage	V_{EBO}	9	V
Collector Current -Continuous	I_C	3	A
Power Dissipation $T_A=25^\circ\text{C}$	P_C	30	W
Junction Temperature	T_j	150	$^\circ\text{C}$
Operating and Storage Temperature Range	T_{stg}	-55 to +150	$^\circ\text{C}$

4.Electrical Characteristics (TA=25°C unless otherwise noted)

Parameters	Symbol	Cindition	Min	TYP	Max	Unit
Collector-base breakdown voltage	$V_{(BR)CBO}$	$I_C=100\mu\text{A}, I_E=0$	700	-	-	V
Collector-emitter breakdown voltage	$V_{(BR)CEO}$	$I_C=10\text{mA}, I_B=0$	400	-	-	V
Emitter-base breakdown voltage	$V_{(BR)EBO}$	$I_E=100\mu\text{A}, I_C=0$	9	-	-	V
Collector cut-off current	I_{CBO}	$V_{CB}=600\text{V}, I_E=0$	-	-	5	mA
Emitter cut-off current	I_{EBO}	$V_{EB}=9\text{V}, I_B=0$	-	-	5	mA
DC current gain	h_{FE}	$V_{CE}=5\text{V}, I_C=0.5\text{A}$	10	-	40	-
Collector-emitter saturation voltage*	$V_{CE(sat)}$	$I_C=1.5\text{A}, I_B=0.5\text{A}$	-	-	1.5	V
Base-emitter saturation voltage*	$V_{BE(sat)}$	$I_C=1\text{A}, I_B=0.25\text{A}$	-	-	1.2	V
Transition frequency	f_T	$V_{CE}=10\text{V}, I_B=0.1\text{A}$	8	-	-	MHz
TurnOnTime	t_r	$V_{CC}=125\text{V}, I_C=0.5\text{A}$	-	-	0.7	μs
	t_{stg}	$I_{B1}=-I_{B2}=0.1\text{A}, R_L=125\Omega$	-	-	4	μs

- Pulsed: Pulse duration = 300 μs , duty cycle 1.5 %



5. Rating And Characteristic Curves

Fig.1 Static Characteristic

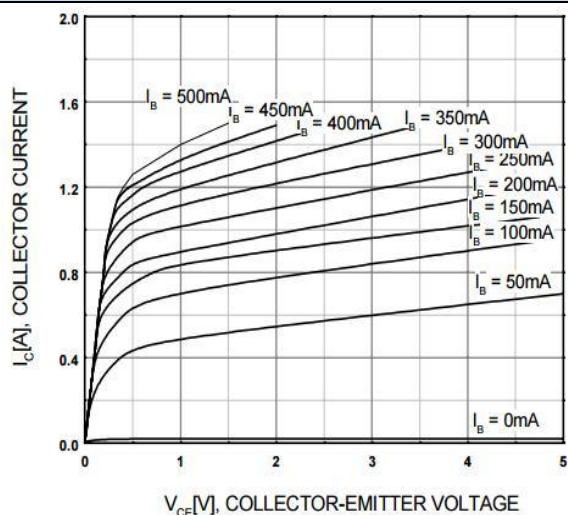


Fig.2 DC current Gain

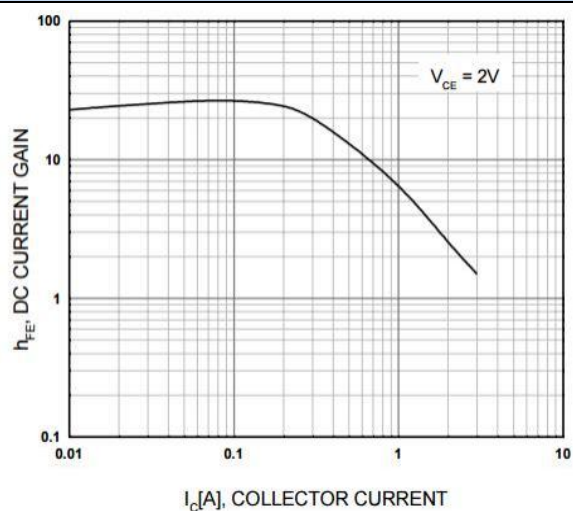


Fig.3 Base-Emitter/Collector-Emitter Saturation Voltage

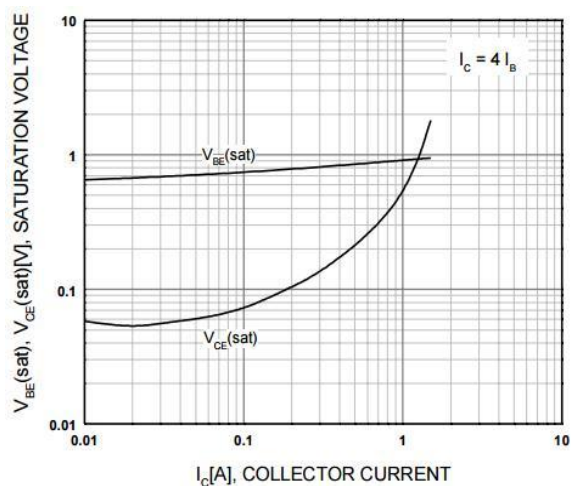


Fig.4 Switching Time

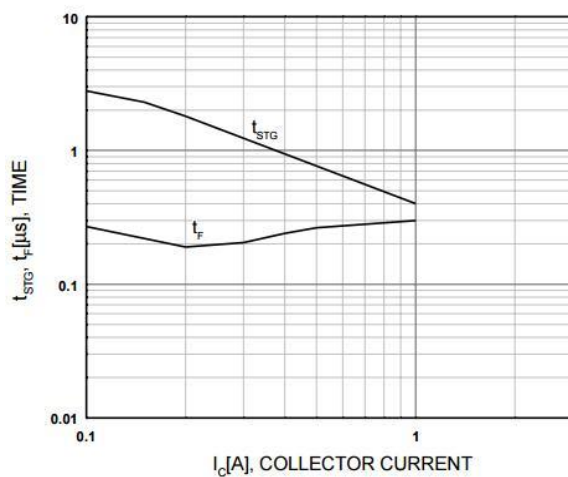


Fig.5 Safe Operating Area

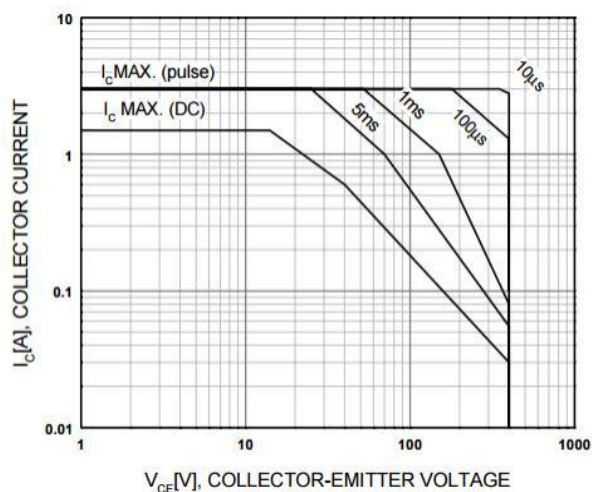
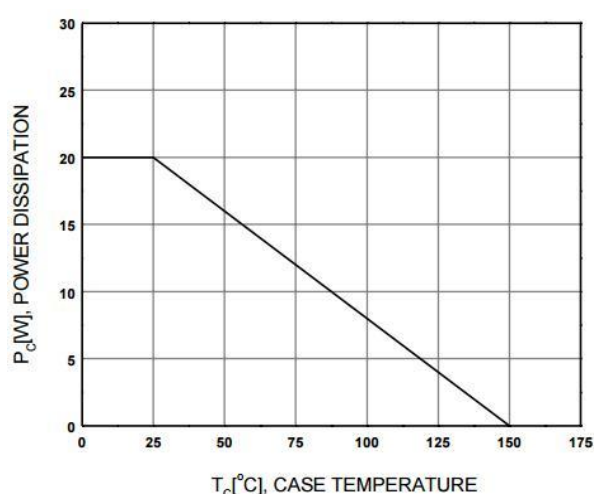
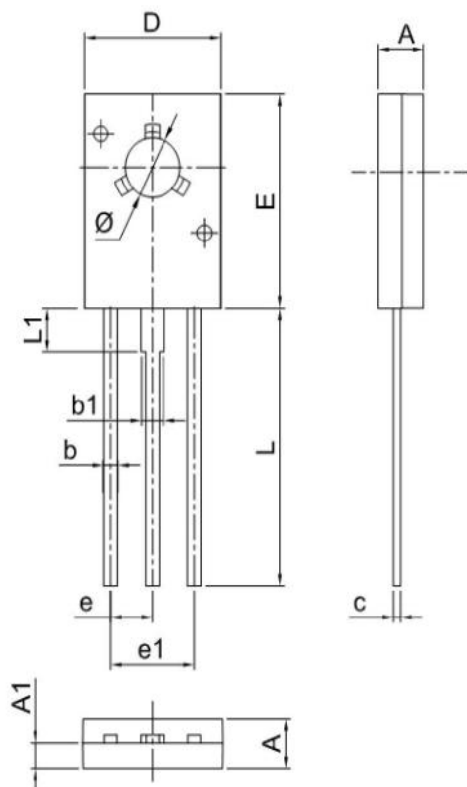


Fig.6 Power Derating



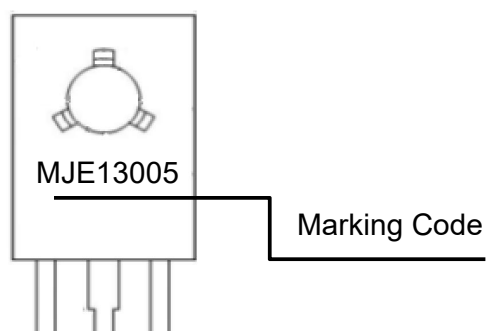


6. Dimensions



Dimensions	Inches		Millimeters	
	Min	Max	Min	Max
A	0.094	0.110	2.40	2.80
A1	0.039	0.055	1.00	1.40
b	0.026	0.034	0.66	0.86
b1	0.046	0.054	1.17	1.37
c	0.016	0.024	0.40	0.60
D	0.287	0.303	7.30	7.70
E	0.417	0.433	10.60	11.00
e	0.089	0.092	2.25	2.33
e1	0.177	0.183	4.50	4.66
L	0.551	0.591	14.00	15.00
L1	0.075	0.098	1.90	2.50
Ø	0.122	0.130	3.10	3.30

7. Part Marking System



8. Package Information

Part Number	Package	Quantity(pcs)
MJE13005	TO126	4000



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