



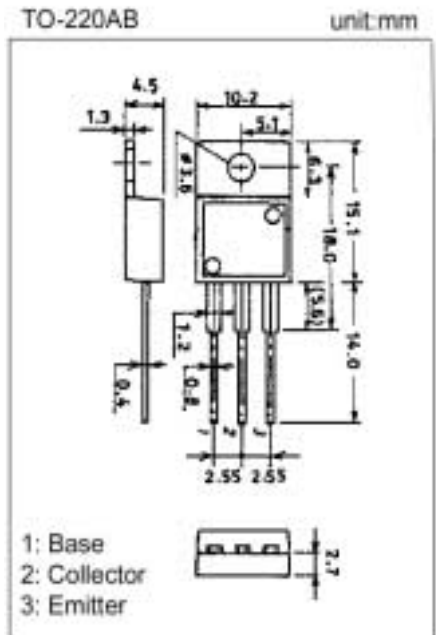
MJE13005B

NPN SILICON TRANSISTOR

ELECTRONIC TRANSFORMERS ,  
POWER SWITCHING CIRCUIT

**ABSOLUTE MAXIMUM RATINGS (  $T_A=25^{\circ}C$  )**

CHARACTERISTIC	SYMBOL	RATING	UNIT
Collector-Base Voltage	V <sub>CB0</sub>	700	V
Collector-Emitter Voltage	V <sub>CEO</sub>	400	V
Emitter-Base Voltage	V <sub>EBO</sub>	9	V
Collector Current	I <sub>c</sub>	4	A
Collector Power Dissipation $T_{amb}=25^{\circ}C$ $T_{case}=25^{\circ}C$	P <sub>tot</sub>	1.5 75	W
Junction Temperature	T <sub>j</sub>	150	°C
Storage Temperature Range	T <sub>stg</sub>	-55~+150	°C



**ELECTRICAL CHARACTERISTICS (  $T_A=25^{\circ}C$  )**

CHARACTERISTIC	SYMBOL	TEST CONDITION	MIN.	MAX.	UNIT
Collector-Emitter Sustaining Voltage	V(BR)CEO	I <sub>c</sub> =1mA, I <sub>B</sub> =0	400	-	V
Collector-Base Breakdown Voltage	V(BR)CBO	I <sub>E</sub> =0, I <sub>c</sub> =1mA	700	-	V
Emitter-Base Breakdown Voltage	V(BR)EBO	I <sub>E</sub> =1mA, I <sub>C</sub> =0	9	-	V
Collector Cut off current	I <sub>CBO</sub>	V <sub>CB</sub> =700V, I <sub>E</sub> =0	-	1000	μA
Collector-Emitter Cut off Current	I <sub>CEO</sub>	V <sub>CE</sub> =400V, I <sub>B</sub> =0	-	1000	μA
Emitter-Base Cut off Voltage	I <sub>EBO</sub>	V <sub>EB</sub> =9V, I <sub>c</sub> =0	-	1000	μA
DC Current Gain	h <sub>FE</sub>	V <sub>CE</sub> =5V, I <sub>c</sub> =1A	10	40	-
Collector-Emitter Saturation Voltage	V <sub>CE(sat)</sub>	I <sub>c</sub> =1A, I <sub>B</sub> =0.25A	-	1.0	V
Base-emitter Voltage	V <sub>BE</sub>	I <sub>E</sub> =1A	-	1.25	V
Base-Emitter Saturation Voltage	V <sub>BE(sat)</sub>	I <sub>c</sub> =1A, I <sub>B</sub> =0.25A	-	1.2	V
Fall Time	t <sub>f</sub>	I <sub>c</sub> =2A I <sub>B1</sub> =-I <sub>B2</sub> =0.4A	-	0.9	μS
Storage Time	t <sub>s</sub>	I <sub>c</sub> =2A I <sub>B1</sub> =- I <sub>B2</sub> =0.4A	-	4	μS
Frequency Characteristics	f <sub>T</sub>	V <sub>CE</sub> =10V, I <sub>c</sub> =0.5A, f=1MHz	5	-	MHz