



MJE13005

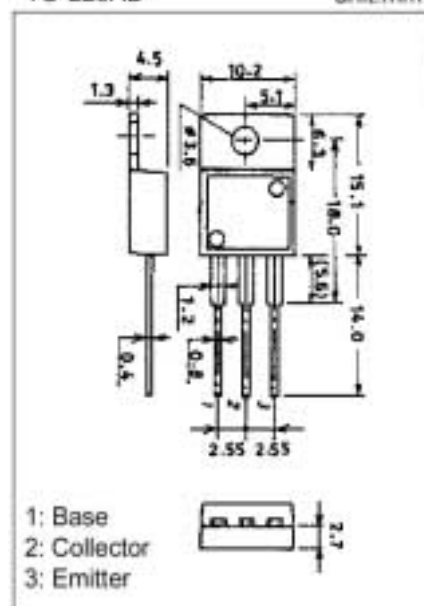
**NPN SILICON TRANSISTOR**

**ELECTRONIC TRANSFORMERS ,  
POWER SWICHING 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 <sub>c</sub> =25°C)	P <sub>c</sub>	75	W
Junction Temperature	T <sub>j</sub>	150	°C
Storage Temperature Range	T <sub>stg</sub>	-55~+150	°C

TO-220AB unit:mm



**ELECTRICAL CHARACTERISTICS (T<sub>A</sub>=25°C)**

CHARACTERISTIC	SYMBOL	TEST CONDITION	MIN.	MAX.	UNIT
Collector-Emitter Sustaining Voltage	V <sub>CEO(sus)</sub>	I <sub>c</sub> =10mA, 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	-	100	μ A
Collector-Emitter Cut off Current	I <sub>CEO</sub>	V <sub>CE</sub> =400V I <sub>B</sub> =0	-	50	μ A
Emitter-Base Cut off Voltage	I <sub>EBO</sub>	V <sub>EB</sub> =7V I <sub>c</sub> =0	-	10	μ A
DC Current Gain	hFE1	V <sub>CE</sub> =10V, I <sub>c</sub> =0.5A,	8	40	-
	hFE2	V <sub>CE</sub> =5V, I <sub>c</sub> =2A,	6	30	-
Collector-Emitter Saturation Voltage	V <sub>CE(sat1)</sub>	I <sub>c</sub> =1A, I <sub>B</sub> =0.2A	-	0.5	V
	V <sub>CE(sat2)</sub>	I <sub>c</sub> =4A, I <sub>B</sub> =1A	-	1.2	V
Base-Emitter Saturation Voltage	V <sub>BE(sat)</sub>	I <sub>c</sub> =2A, I <sub>B</sub> =0.5A	-	1.6	
Fall Time	t <sub>f</sub>	I <sub>c</sub> =2A	-	0.9	μ S
Storage Time	t <sub>s</sub>	I <sub>B1</sub> =-1 I <sub>B2</sub> =0.4A	-	4	μ S
Frequency Characteristics	f <sub>T</sub>	V <sub>CE</sub> =10V, I <sub>c</sub> =0.5A, f=1MHz	5	-	MHz