



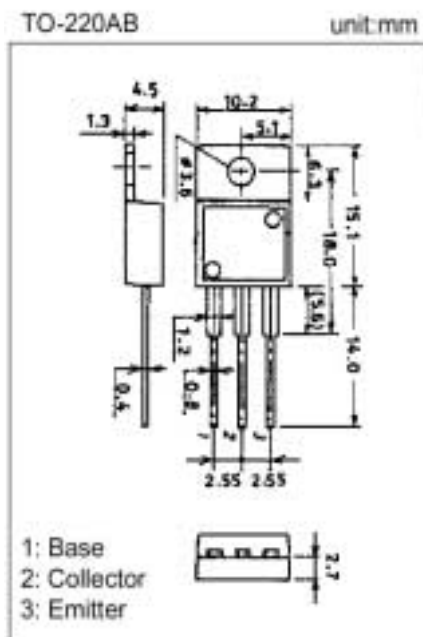
MJE13005

NPN SILICON TRANSISTOR

ELECTRONIC TRANSFORMERS ,
POWER SWITCHING CIRCUIT

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

CHARACTERISTIC	SYMBOL	RATING	UNIT
Collector-Base Voltage	V_{CB0}	700	V
Collector-Emitter Voltage	V_{CEO}	400	V
Emitter-Base Voltage	V_{EB0}	9	V
Collector Current	I_c	4	A
Collector Power Dissipation ($T_c=25^{\circ}\text{C}$)	P_c	75	W
Junction Temperature	T_j	150	$^{\circ}\text{C}$
Storage Temperature Range	T_{stg}	-55~+150	$^{\circ}\text{C}$



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

CHARACTERISTIC	SYMBOL	TEST CONDITION	MIN.	MAX.	UNIT
Collector-Emitter Sustaining Voltage	$V_{CEO(sus)}$	$I_c=10\text{mA}$, $I_B=0$	400	-	V
Collector-Base Breakdown Voltage	$V_{(BR)CBO}$	$I_E=0$, $I_c=1\text{mA}$	700	-	V
Emitter-Base Breakdown Voltage	$V_{(BR) EBO}$	$I_E=1\text{mA}$, $I_C=0$	9	-	V
Collector Cut off current	I_{CBO}	$V_{CB}=700\text{V}$ $I_E=0$	-	100	μA
Collector-Emitter Cut off Current	I_{CEO}	$V_{CE}=400\text{V}$ $I_B=0$	-	50	μA
Emitter-Base Cut off Voltage	I_{EBO}	$V_{EB}=7\text{V}$ $I_c=0$	-	10	μA
DC Current Gain	h_{FE1}	$V_{CE}=10\text{V}$, $I_c=0.5\text{A}$,	8	40	-
	h_{FE2}	$V_{CE}=5\text{V}$, $I_c=2\text{A}$,	6	30	-
Collector-Emitter Saturation Voltage	$V_{CE(sat1)}$	$I_c=1\text{A}$, $I_B=0.2\text{A}$	-	0.5	V
	$V_{CE(sat2)}$	$I_c=4\text{A}$, $I_B=1\text{A}$	-	1.2	V
Base-Emitter Saturation Voltage	$V_{BE(sat)}$	$I_c=2\text{A}$, $I_B=0.5\text{A}$	-	1.6	
Fall Time	t_f	$I_c=2\text{A}$	-	0.9	μS
Storage Time	t_s	$I_{B1}=-1$ $I_{B2}=0.4\text{A}$	-	4	μS
Frequency Characteristics	f_T	$V_{CE}=10\text{V}$, $I_c=0.5\text{A}$, $f=1\text{MHz}$	5	-	MHz