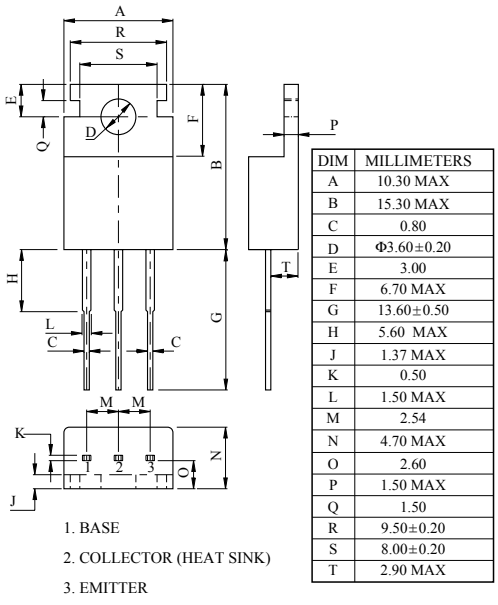
MJE13005

TRIPLE DIFFUSED NPN TRANSISTOR

SWITCHING REGULATOR APPLICATION.
HIGH VOLTAGE SWITCHING APPLICATION.
HIGH SPEED DC-DC CONVERTER APPLICATION.
FLUORESCENT LIGHT BALLASTOR APPLICATION.

FEATURES

· Excellent Switching Times
: t_{on}=0.8μS(Max.), t_f=0.9μS(Max.), at I_C=2A
· High Collector Voltage : V_{CBO}=700V.



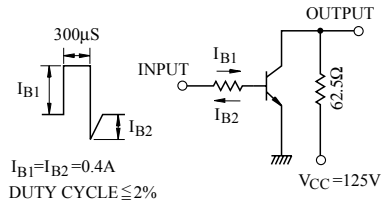
DIM	MILLIMETERS
A	10.30 MAX
B	15.30 MAX
C	0.80
D	Φ3.60±0.20
E	3.00
F	6.70 MAX
G	13.60±0.50
H	5.60 MAX
J	1.37 MAX
K	0.50
L	1.50 MAX
M	2.54
N	4.70 MAX
O	2.60
P	1.50 MAX
Q	1.50
R	9.50±0.20
S	8.00±0.20
T	2.90 MAX

TO-220AB

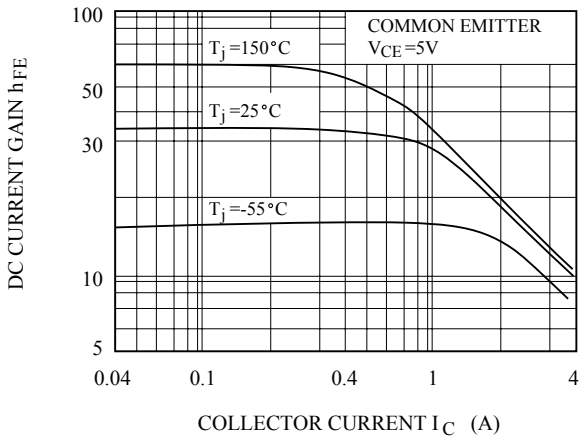
MAXIMUM RATING (Ta=25℃)

CHARACTERISTIC		SYMBOL	RATING	UNIT
Collector-Base Voltage		V_{CBO}	700	V
Collector-Emitter Voltage		V_{CEO}	400	V
Emitter-Base Voltage		V_{EBO}	9	V
Collector Current	DC	I_C	4	A
	Pulse	I_{CP}	8	
Base Current		I_B	2	A
Collector Power Dissipation (Tc=25℃)		P_C	75	W
Junction Temperature		T_j	150	℃
Storage Temperature Range		T_{stg}	-55～150	℃

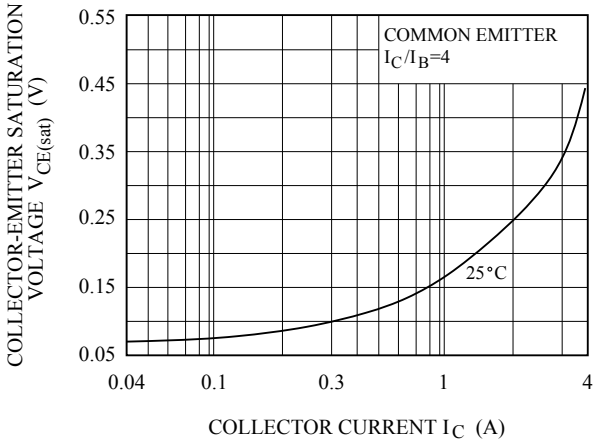
ELECTRICAL CHARACTERISTICS (Ta=25℃)

CHARACTERISTIC	SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Emitter Cut-off Current	I_{EBO}	V_{EB}=9V, I_C=0	-	-	1	mA
DC Current Gain	h_{FE}(1)	V_{CE}=5V, I_C=1A	19	-	36	
	h_{FE}(2)	V_{CE}=5V, I_C=2A	10	-	30	
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$	I_C=1A, I_B=0.2A	-	-	0.5	V
		I_C=2A, I_B=0.5A	-	-	0.6	
		I_C=4A, I_B=1A	-	-	1	
Base-Emitter Saturation Voltage	$V_{BE(sat)}$	I_C=1A, I_B=0.2A	-	-	1.2	V
		I_C=2A, I_B=0.5A	-	-	1.6	
Collector Output Capacitance	C_{ob}	V_{CB}=10V, f=0.1MHz, I_E=0	-	65	-	pF
Transition Frequency	f_T	V_{CE}=10V, I_C=0.5A	4	-	-	MHz
Turn-On Time	t_{on}		-	-	0.8	μS
Storage Time	t_{stg}		-	-	4	μS
Fall Time	t_f		-	-	0.9	μS

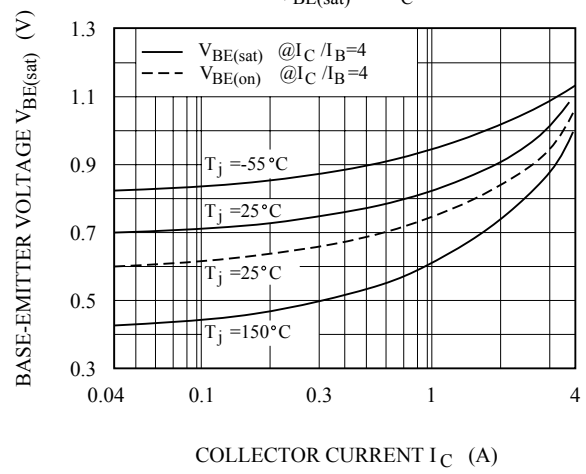
h_{FE} - I_C



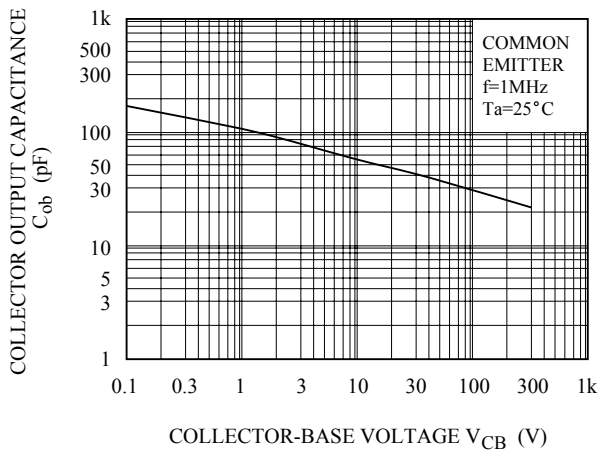
$V_{CE(sat)}$ - I_C



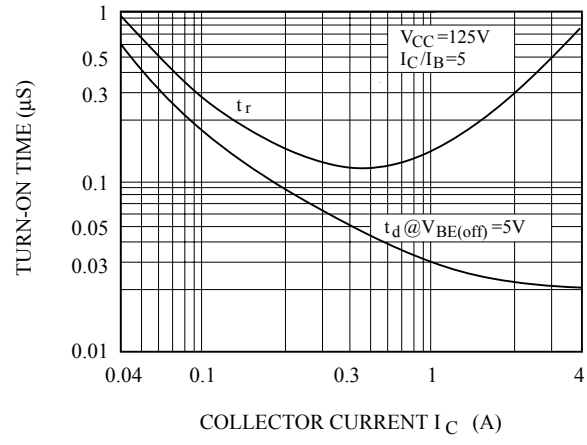
$V_{BE(sat)}$ - I_C



C_{ob} - V_{CB}



SWITCHING CHARACTERISTIC



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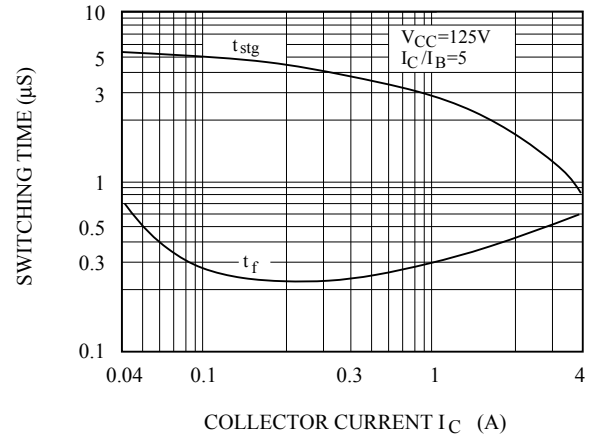
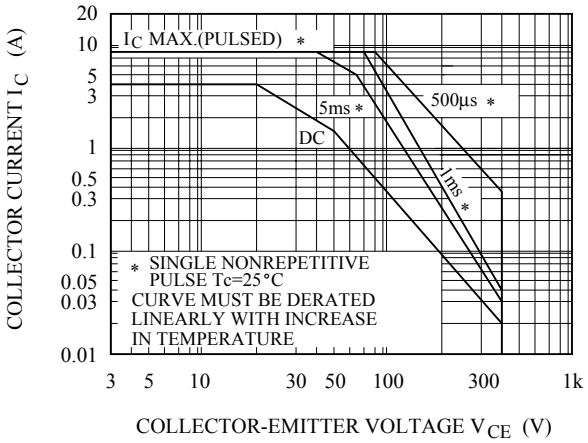
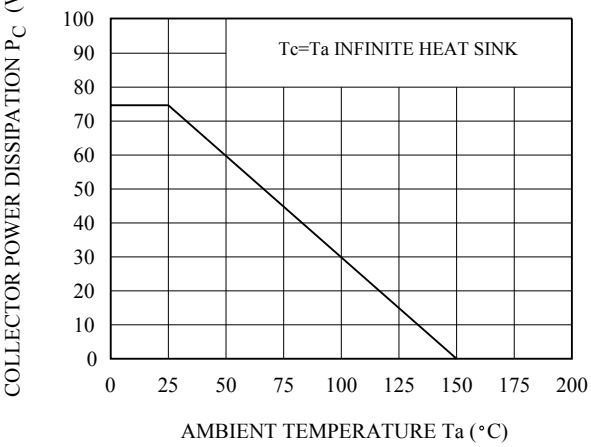


SAFE OPERATING AREA



P_C - Ta