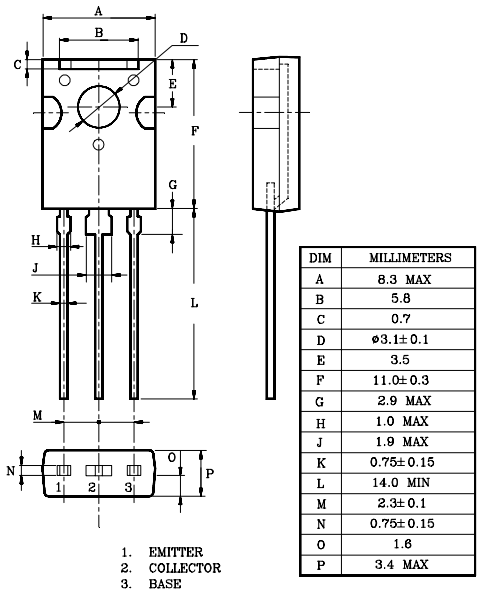
MJE13003

TRIPLE DIFFUSED NPN TRANSISTOR

SWITCHING REGULATOR APPLICATION.
HIGH VOLTAGE AND HIGH SPEED
SWITCHING APPLICATION.

FEATURES

- Excellent Switching Times
  : t_{on}=1.1μS(Max.), t_f=0.7μS(Max.), at I_C=1A
- High Collector Voltage : V_{CBO}=700V.



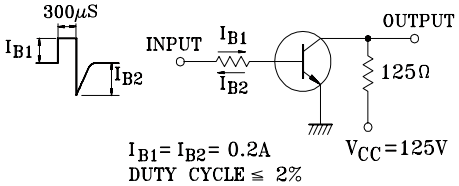
DIM	MILLIMETERS
A	8.3 MAX
B	5.8
C	0.7
D	ø3.1±0.1
E	3.5
F	11.0±0.3
G	2.9 MAX
H	1.0 MAX
J	1.9 MAX
K	0.75±0.15
L	14.0 MIN
M	2.3±0.1
N	0.75±0.15
O	1.6
P	3.4 MAX

TO-126

MAXIMUM RATINGS (Ta=25℃)

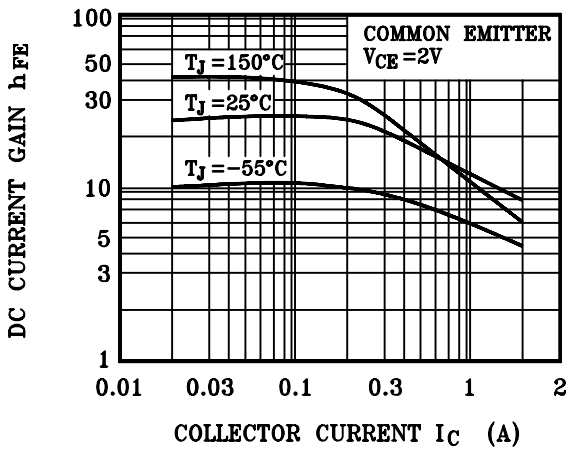
CHARACTERISTIC		SYMBOL	RATING	UNIT
Collector-Base Voltage		V_{CBO}	700	V
Collector-Emitter Voltage		V_{CEO}	400	V
Emitter-Base Voltage		V_{EBO}	9	V
Collector Current	DC	I_C	1.5	A
	Pulse	I_{CP}	3	
Base Current		I_B	0.75	A
Collector Power Dissipation (Tc=25℃)		P_C	20	W
Junction Temperature		T_j	150	℃
Storage Temperature Range		T_{stg}	-65~150	℃

ELECTRICAL CHARACTERISTICS (Ta=25℃)

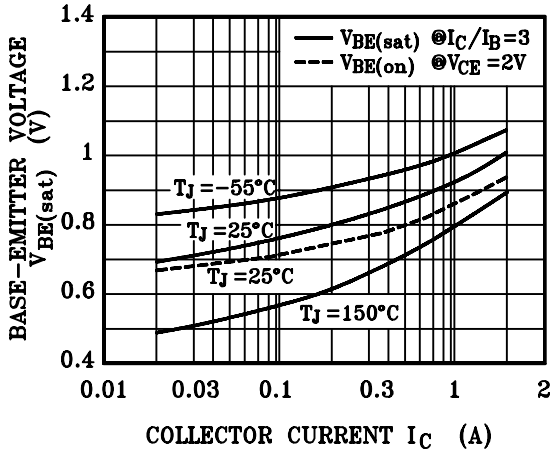
CHARACTERISTIC	SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Emitter Cut-off Current	I_{EBO}	V_{EB}=9V, I_C=0	-	-	10	μA
DC Current Gain	h_{FE}(1)Note	V_{CE}=2V, I_C=0.5A	19	-	36	
	h_{FE}(2)	V_{CE}=2V, I_C=1A	5	-	25	
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$	I_C=0.5A, I_B=0.1A	-	-	0.5	V
		I_C=1A, I_B=0.25A	-	-	1	
		I_C=1.5A, I_B=0.5A	-	-	3	
Base-Emitter Saturation Voltage	$V_{BE(sat)}$	I_C=0.5A, I_B=0.1A	-	-	1	V
		I_C=1A, I_B=0.25A	-	-	1.2	
Collector Output Capacitance	C_{ob}	V_{CB}=10V, f=0.1MHz	-	21	-	pF
Transition Frequency	f_T	V_{CE}=10V, I_C=0.1A	4	-	-	MHz
Turn-On Time	t_{on}		-	-	1.1	μS
Storage Time	t_{stg}		-	-	4.0	μS
Fall Time	t_f		-	-	0.7	μS

Note : h_{FE}(1) Classification : O:19~28 , Y:26~36

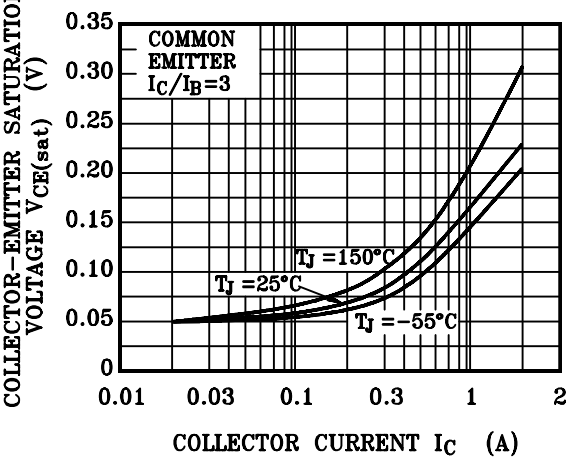
DC CURRENT GAIN



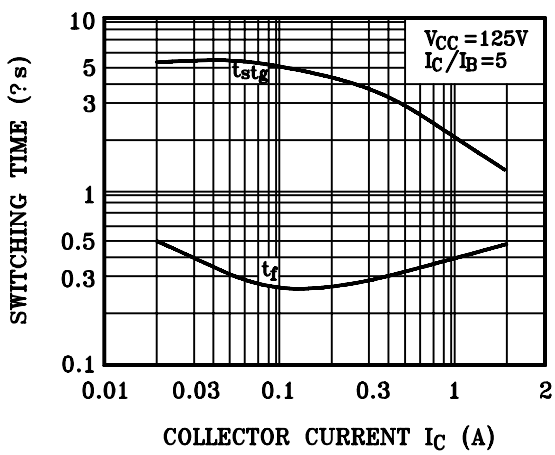
$V_{BE(sat)}$ − I_C



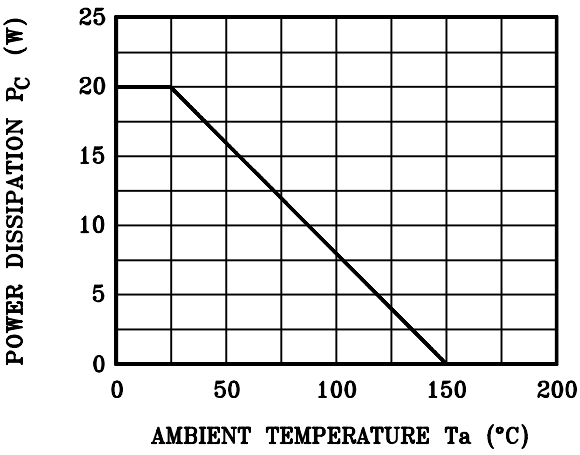
$V_{CE(sat)}$ − I_C



SWITCHING CHARACTERISTIC



P_C − Ta



SAFE OPERATING AREA