MJE13004D

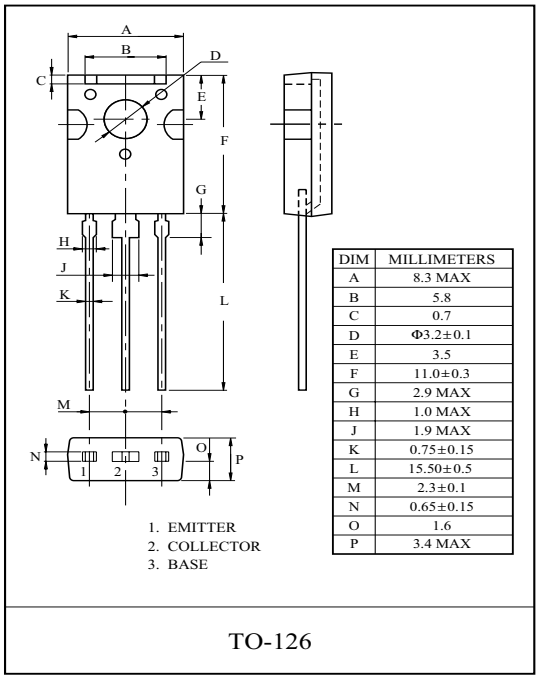
TRIPLE DIFFUSED NPN TRANSISTOR

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

FEATURES

· Built-in Free Wheeling Diode

· Suitable for Electrouic Ballast Application



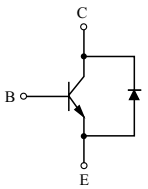
DIM	MILLIMETERS
A	8.3 MAX
B	5.8
C	0.7
D	Φ3.2±0.1
E	3.5
F	11.0±0.3
G	2.9 MAX
H	1.0 MAX
J	1.9 MAX
K	0.75±0.15
L	15.50±0.5
M	2.3±0.1
N	0.65±0.15
O	1.6
P	3.4 MAX

TO-126

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	30	W
Junction Temperature		T_j	150	℃
Storage Temperature Range		T_{stg}	-55 150	℃

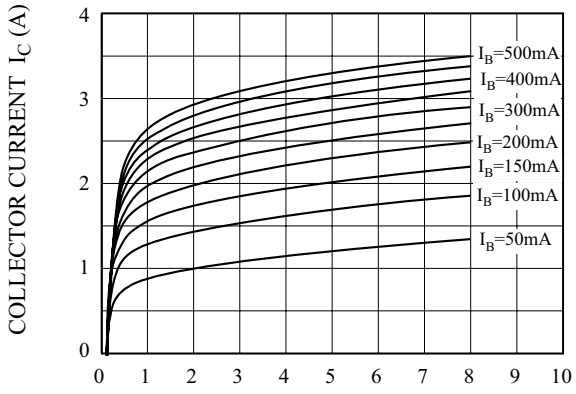
Equivalent Circuit



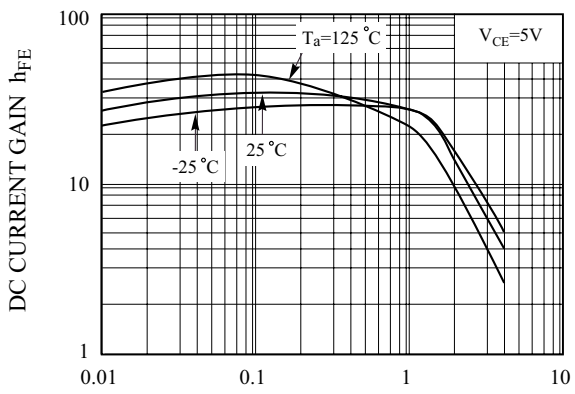
ELECTRICAL CHARACTERISTICS (Ta=25℃)

CHARACTERISTIC	SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Collector Cut-off Current	I_{CEO}	V_{CE}=400V	-	-	250	μA
Collector Cut-off Current	I_{CES}	V_{CE}=700V, V_{EB}=0V	-	-	100	μA
Emitter Cut-off Current	I_{EBO}	V_{EB}=9V	-	-	100	μA
DC Current Gain	h_{FE} (1)	V_{CE}=5V, I_C=10mA	10	-	-	-
	h_{FE} (2)	V_{CE}=5V, I_C=1A	20	-	40	-
	h_{FE} (3)	V_{CE}=5V, I_C=2A	8	-	40	-
Collector-Emitter Saturation Voltage	$V_{CE(SAT)}$ (1)	I_C=0.5A, I_B=0.1A	-	-	0.7	V
	$V_{CE(SAT)}$ (2)	I_C=1A, I_B=0.2A	-	-	1.0	V
	$V_{CE(SAT)}$ (3)	I_C=2.5A, I_B=0.5A	-	-	1.5	V
Base-Emitter Saturation Voltage	$V_{BE(SAT)}$ (1)	I_C=0.5A, I_B=0.1A	-	-	1.1	V
	$V_{BE(SAT)}$ (2)	I_C=1A, I_B=0.2A	-	-	1.2	V
	$V_{BE(SAT)}$ (3)	I_C=2.5A, I_B=0.5A	-	-	1.3	V
Internal Diode Forward Voltage Drop	V_F	I_F=2A	-	-	2.5	V
Resistive Load Switching						
Storage Time	t_{stg}	V_{CC}=200V,I_C=2A,	-	-	2.9	μS
Fall Time	t_f	I_{B1}=I_{B2}=0.4A, T_P=30 μS	-	0.2	-	μS
Inductive Load Switching						
Storage Time	t_{stg}	V_{CC}=200V,I_C=2A, I_{B1}=0.4A,	-	0.6	-	μS
Fall Time	t_f	$V_{BE(off)}$=-5V, L=30 μH	-	0.1	-	μS

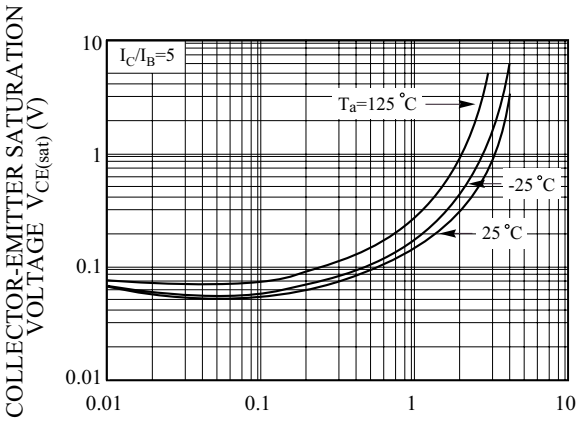
I_C - V_{CE}



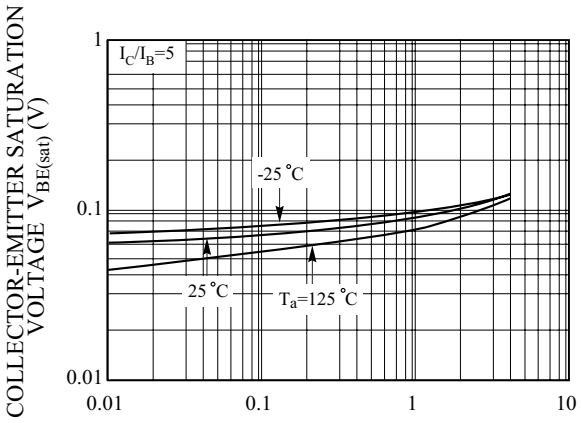
h_{FE} - I_C



$V_{CE(sat)}$ - I_C



$V_{BE(sat)}$ - I_C



SAFE OPERATING AREA