

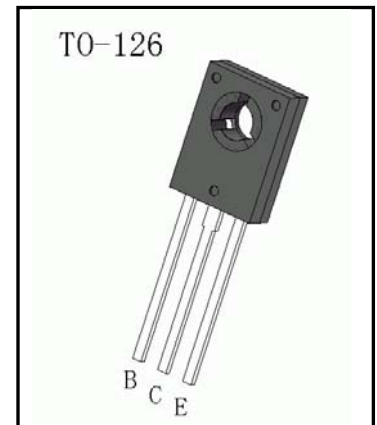


FEATURES

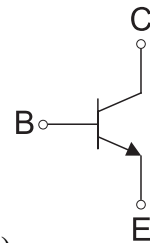
- High breakdown voltage.
- Wide SOA(Safe operating area).
- Very High Switching Speed

MAXIMUM RATINGS (TA=25°C unless otherwise noted)

PARAMETER	SYMBOL	VALUE	UNIT
Collector-Base Voltage	BV_{CBO}	700	V
Collector-Emitter Voltage	BV_{CEO}	400	V
Emitter-Base Voltage	BV_{EBO}	9	V
Collector Current -Continuous	I_{CM}	1.5	A
Collector Power dissipation	P_{CM}	1.4	W
Storage Temperature	T_j, T_{stg}	-55~+150	°C



Equivalent Circuit



ELECTRICAL CHARACTERISTICS (Tamb=25°C unless otherwise specified)

PARAMETER	SYMBOL	TEST CONDITIONS	VALUE			UNIT
			MIN	TYP	MAX	
Collector-Base breakdown Voltage	BV_{CBO}	$I_C = 100\mu A, I_E = 0$	700			V
Collector-Emitter breakdown Voltage	BV_{CEO}	$I_C = 1mA, I_B = 0$	400			V
Emitter-Base breakdown Voltage	BV_{EBO}	$I_E = 100\mu A, I_C = 0$	9			V
Collector cut-off current	I_{CBO}	$V_{CB} = 650V, I_E = 0$			0.1	μA
Collector Cut-off Current	I_{CEO}	$V_{CE} = 400V, I_B = 0$			0.5	μA
Emitter cut-off current	I_{EBO}	$V_{EB} = 9V, I_C = 0$			0.1	μA
DC current gain	$H_{FE(1)}$	$V_{CE} = 10V, I_C = 200mA$	10		40	
	$H_{FE(2)}$	$V_{CE} = 10V, I_C = 100mA$	8		60	
Collector-emitter saturation voltage	V_{CESAT}	$I_C = 1A, I_B = 0.25A$			1	V
Base-emitter saturation voltage	V_{BESAT}	$I_C = 1A, I_B = 0.25A$			1.2	V
Transition frequency	f_T	$V_{CE} = 10V, I_B = 100mA$	8			MHz
Fall time	t_f	$V_{CC} = 100V, I_C = 1A$ $I_{B1} = -I_{B2} = 0.2A$			0.5	μs
Storage time	t_s				4	μs

Classification of $H_{FE(1)}$

Range	10-15	15-20	20-25	25-30	30-35	35-40
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Typical Characteristics

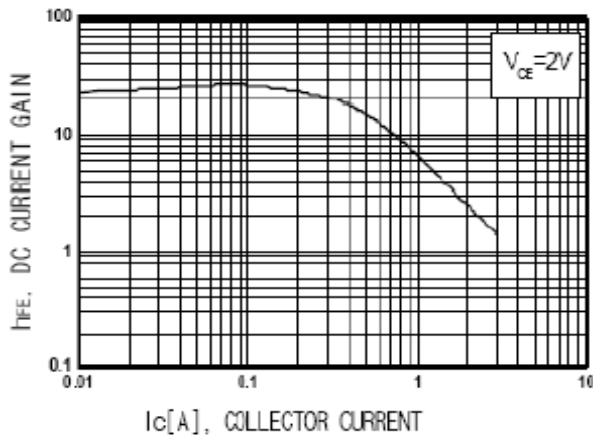


Fig.1 DC Current Gain

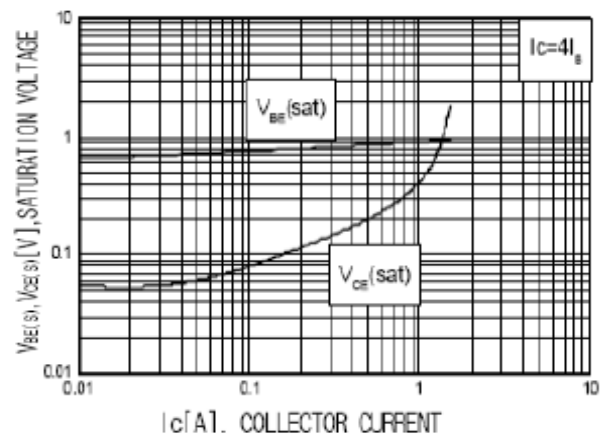


Fig.2 Saturation Voltage

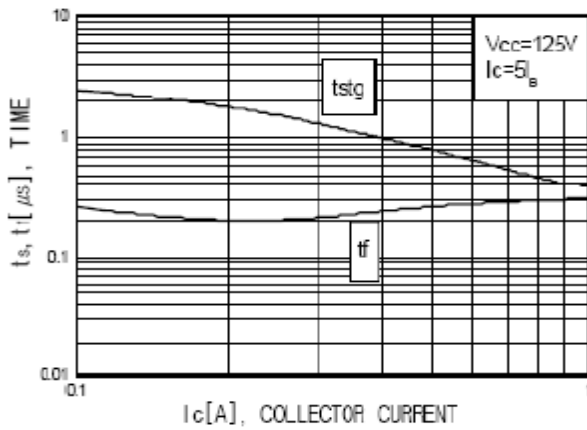


Fig.3 Switching Time

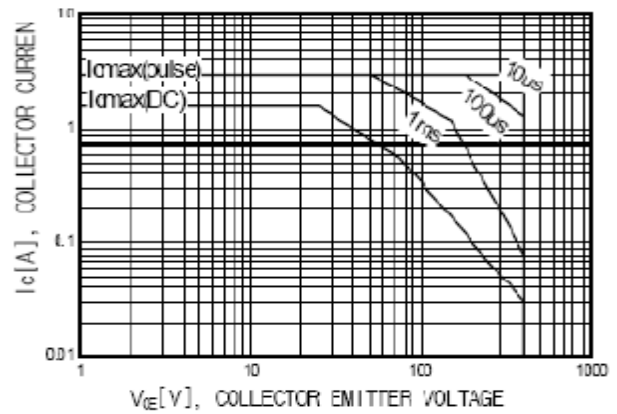


Fig.4 Safe Operation Area

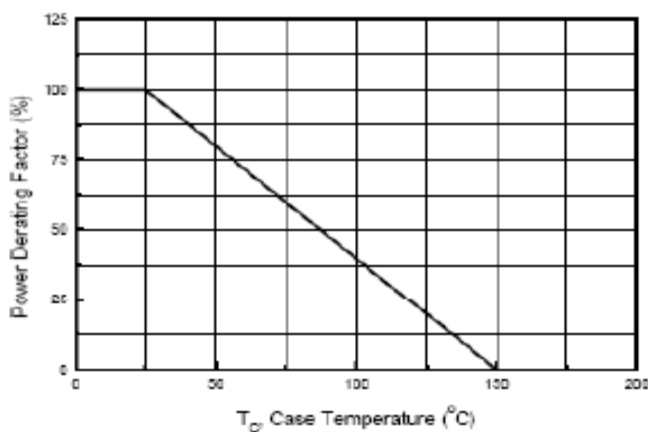
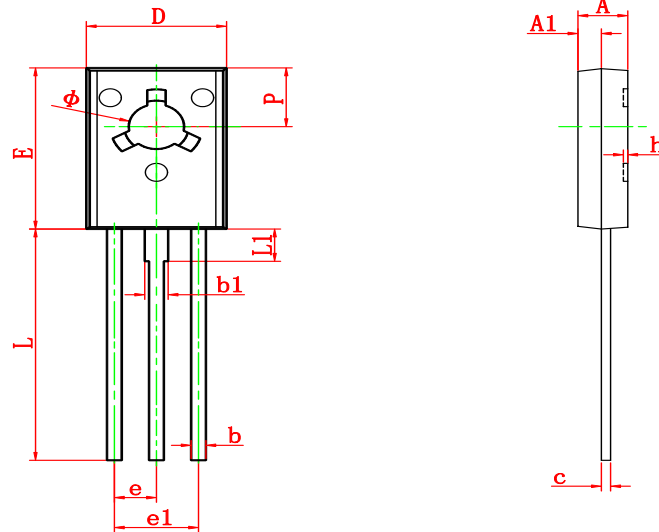


Fig.5 Power Derating

Package Dimension:TO-126



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min	Max	Min	Max
A	2.500	2.900	0.098	0.114
A1	1.100	1.500	0.043	0.059
b	0.660	0.860	0.026	0.034
b1	1.170	1.370	0.046	0.054
c	0.450	0.600	0.018	0.024
D	7.400	7.800	0.291	0.307
E	10.600	11.000	0.417	0.433
e	2.290 TYP		0.090 TYP	
e1	4.480	4.680	0.176	0.184
h	0.000	0.300	0.000	0.012
L	15.300	15.700	0.602	0.618
L1	2.100	2.300	0.083	0.091
P	3.900	4.100	0.154	0.161
Φ	3.000	3.200	0.118	0.126

ORDERING INFORMATION

Part Number	Package	Packing Method	Pack Quantity
13003B-B/P	TO-126	Bulk	200pcs/Bag
13003B-T/P	TO-126	Tube	60pcs/Tube