



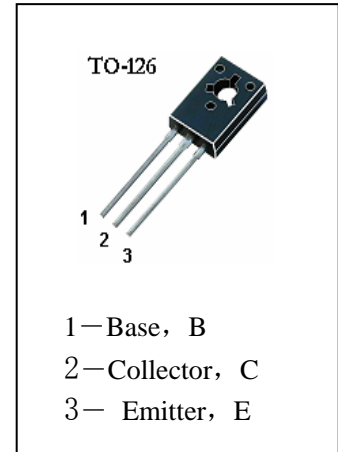
H13003H

■ HIGH VOLTAGE SWITCH MODE APPLICATIONS

High Speed Switching. Suitable for Switching Regulator and Motor Control

■ ABSOLUTE MAXIMUM RATINGS (T_a=25°C)

- T_{stg}—Storage Temperature..... -65~150°C
- T_j—Junction Temperature.....150°C
- P_C—Collector Dissipation.....40W
- V_{CBO}—Collector-Base Voltage.....700V
- V_{CEO}—Collector-Emitter Voltage.....450V
- V_{EBO}—Emitter-Base Voltage.....9V
- I_C—Collector Current.....2A
- I_B—Base Current..... 0.75A



■ ELECTRICAL CHARACTERISTICS (T_a=25°C)

Symbol	Characteristics	Min	Typ	Max	Unit	Test Conditions
BV _{CEO}	Collector-Emitter Breakdown Voltage	450			V	I _C =5mA, I _B =0
I _{EBO}	Emitter-Base Cut-off Current			10	μ A	V _{EB} =9V, I _C =0
h _{FE} (1)	DC Current Gain	10		40		V _{CE} =5V, I _C =0.5A
h _{FE} (2)	DC Current Gain	5				V _{CE} =2V, I _C =1A
V _{CE(sat)1}	Collector- Emitter Saturation Voltage			0.5	V	I _C =0.5A, I _B =0.1A
V _{CE(sat)2}	Collector- Emitter Saturation Voltage			1	V	I _C =1A, I _B =0.25A
V _{CE(sat)3}	Collector- Emitter Saturation Voltage			2	V	I _C =1.5A, I _B =0.5A
V _{BE(sat)1}	Base-Emitter Saturation Voltage			1	V	I _C =0.5A, I _B =0.1A
V _{BE(sat)2}	Base-Emitter Saturation Voltage			1.2	V	I _C =1A, I _B =0.25A
f _T	Current Gain-Bandwidth Product	4			MHZ	V _{CE} =10V, I _C =0.1A
t _{ON}	Turn On Time			1.1	μ s	V _{CC} =125V, I _C =1A, I _{B1} =0.2A, I _{B2} =-0.2A R _L =125 Ω
t _{STG}	Storage Time			4.0	μ s	
t _F	Fall Time			0.7	μ s	

■ h_{FE}(1) Classification

H1	H2	H3	H4	H5
10-16	14-21	19-26	24-31	29-40



Typical Characteristics

Fig 1. DC Current Gain

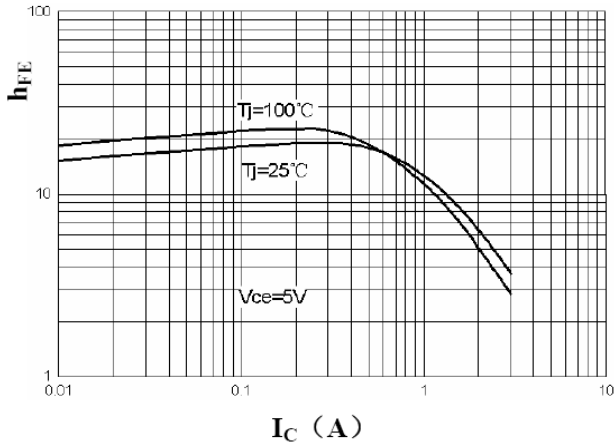


Fig 2. Collector-Emitter Saturation Voltage

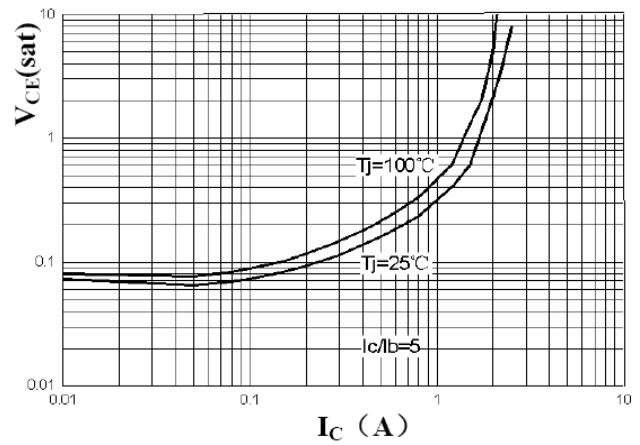


Fig 3. Base-Emitter Saturation Voltage

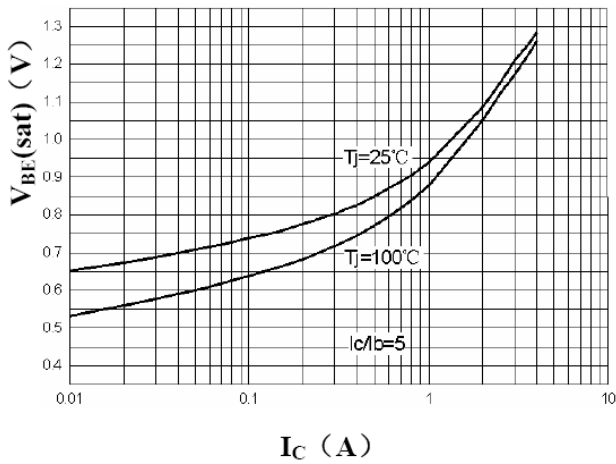


Fig 4. Safe Operation Areas

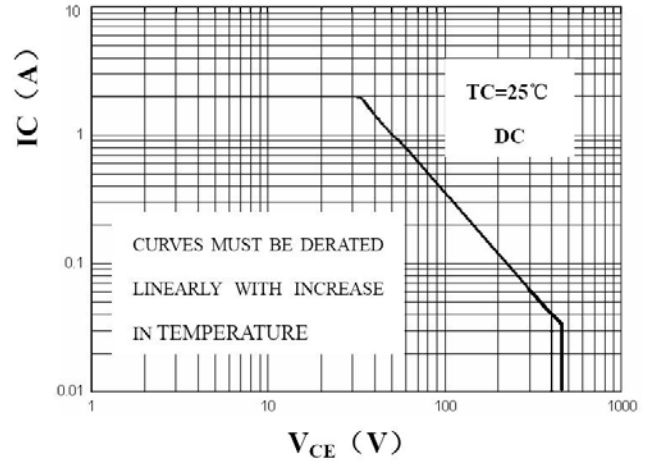
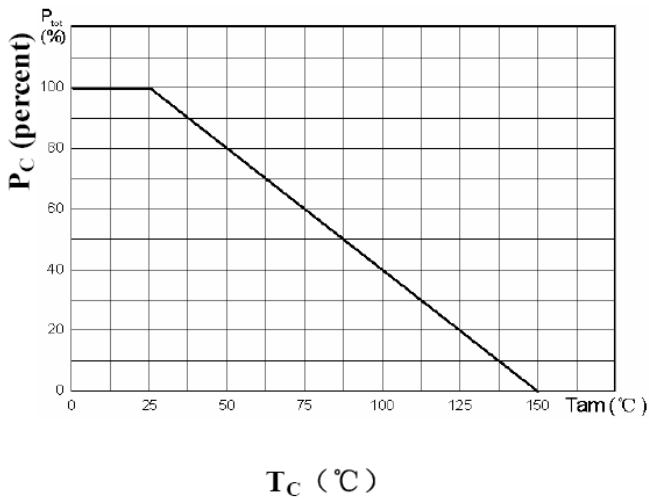
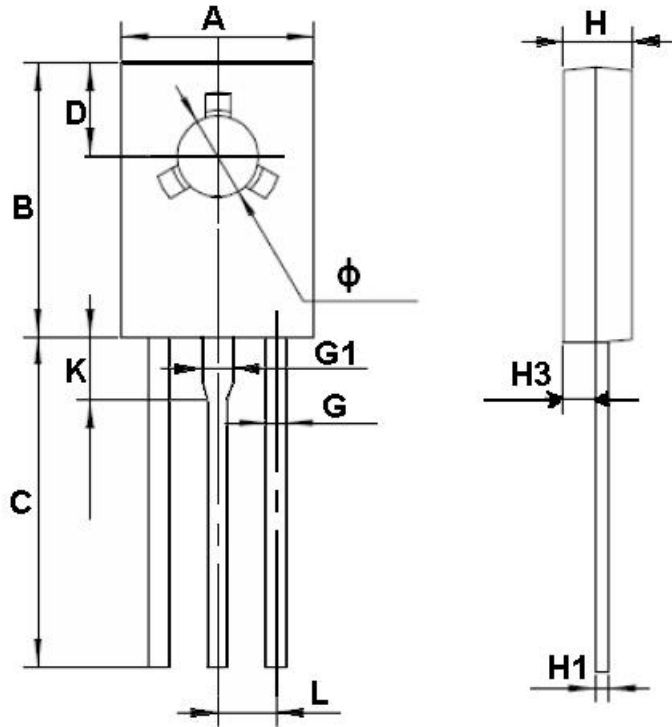


Fig 5. Power Derating Curve





■ Package Dimensions



SYMBOL	MILLIMETERS		SYMBOL	MILLIMETERS		SYMBOL	MILLIMETERS	
	Min	Max		Min	Max		Min	Max
A		8.5	G1	(1.2)		K	2.3	2.7
B		12.0	H		2.8	L		2.3
C	13.0		H1	0.49	0.57	ϕ	3.0	3.4
D	3.6	4.0	H3	(1.27)				
G	0.7	0.86						

Notes: () is for reference data.