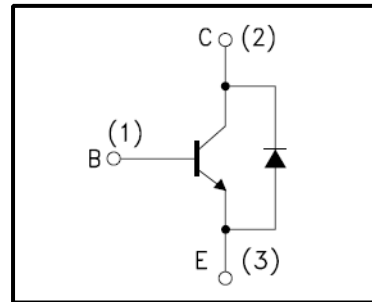
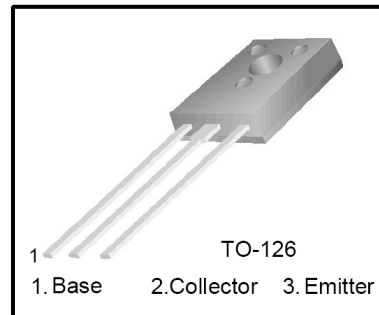


High Voltage Fast-Switching NPN Power Transistor
Features

- ◆ Very High Switching Speed
- ◆ High Voltage Capability
- ◆ High Voltage Capability
- ◆ Wide Soa
- ◆ Built-in freewheeling diode


General Description

This Device is designed for high voltage, High speed switching characteristics required such as lighting system, switching mode power supply.


Absolute Maximum Ratings(Tc = 25°C)

Symbol	Parameter	Test Conditions	Value	Units
V _{CES}	Collector-Emitter Voltage	V _{BE} = 0	400	V
V _{CEO}	Collector-Emitter Voltage	I _B = 0	200	V
V _{EBO}	Emitter-Base Voltage	I _C = 0	9.0	V
I _C	Collector Current		1.2	A
I _{CP}	Collector pulse Current		3.0	A
P _C	Total Dissipation at T _c = 25°C		10	W
T _J	Operation Junction Temperature		150	°C
T _{STG}	Storage Temperature		- 40 ~ 150	°C

Thermal Characteristics

Symbol	Parameter	Value	Units
R _{θJc}	Thermal Resistance Junction to Case	3.12	°C/W
R _{θJA}	Thermal Resistance Junction to Ambient	89	°C/W

Electrical Characteristics (T_C=25°C unless otherwise noted)

Symbol	Parameter	Test Conditions	Value			Units
			Min	Typ	Max	
BV _{CBO}	Collector-Base Breakdown Voltage	I _c =0.5mA, I _e =0	400			V
BV _{CEO}	Collector-Emitter Breakdown Voltage	I _c =10mA, I _b =0	200	-	-	V
V _{CE(sat)}	Collector-Emitter Saturation Voltage	I _c =100mA, I _b =20mA	-	-	0.5	V
V _{BE(sat)}	Base-Emitter Saturation Voltage	I _c =100mA, I _b =20mA	-	-	1.0	V
I _{CBO}	Collector-Base Cutoff Current	V _{cb} =350V, I _e =0mA	-	-	100	μA
I _{CEO}	Collector-Emitter Cutoff Current	V _{ce} =200V, I _b =0mA	-	-	200	μA
I _{EBO}	Emitter- Base Cutoff Current	V _{eb} =9V, I _c =0mA	-	-	20	μA
h _{FE}	DC Current Gain	V _{ce} =5V, I _c =200mA V _{ce} =5V, I _c =1mA	10 8	- -	40 -	
ts	Storage Time	V _{CC} =250V	2	-	4	μs
tf	Fall Time	I _c =5 I _B I _{B1} =- I _{B2} =0.04A	-	-	0.8	
VFSD						

Note:

Pulse Test : Pulse width 300, Duty cycle 2%

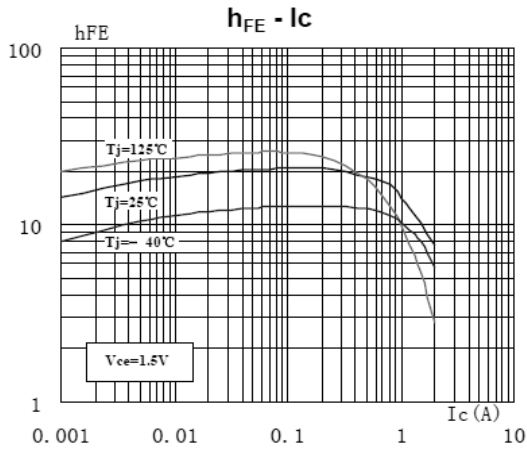


Fig. 1 DC Current Gain

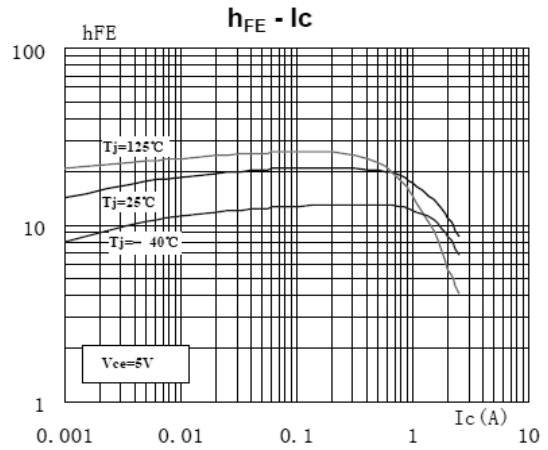


Fig. 2 DC Current Gain

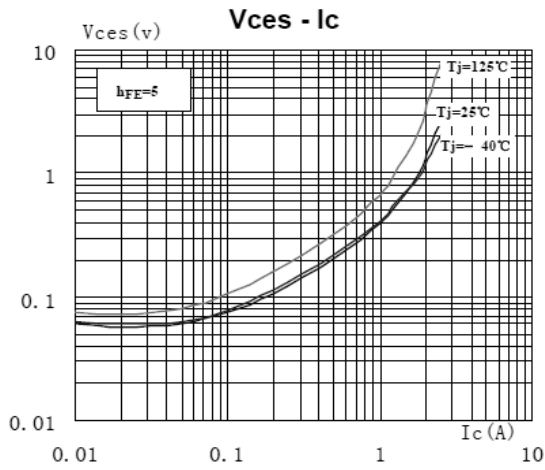


Fig. 3 VCE Saturation Voltage

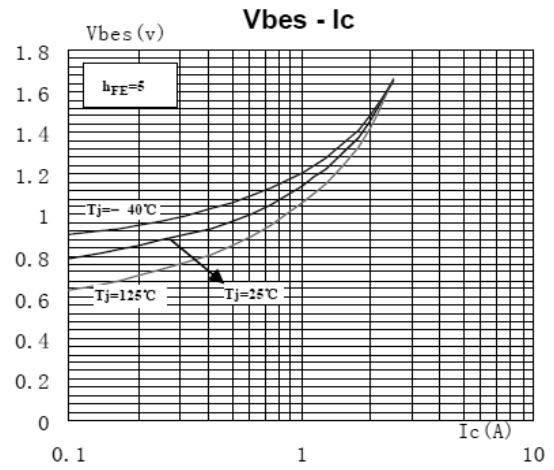


Fig. 4 VBE Saturation Voltage

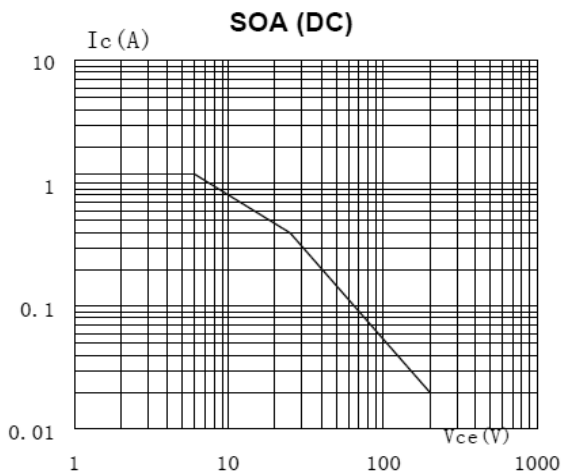


Fig. 5 Safe Operation Area

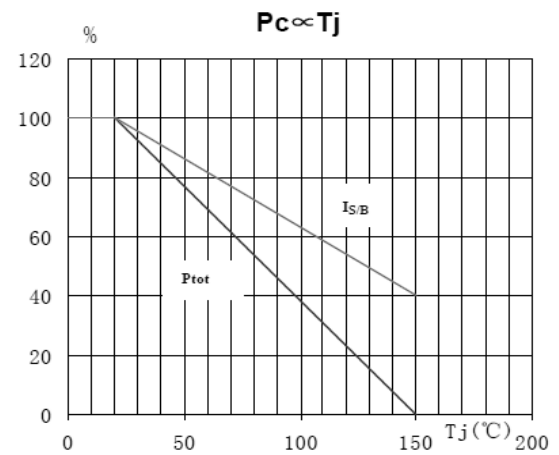


Fig. 6 Power Derating

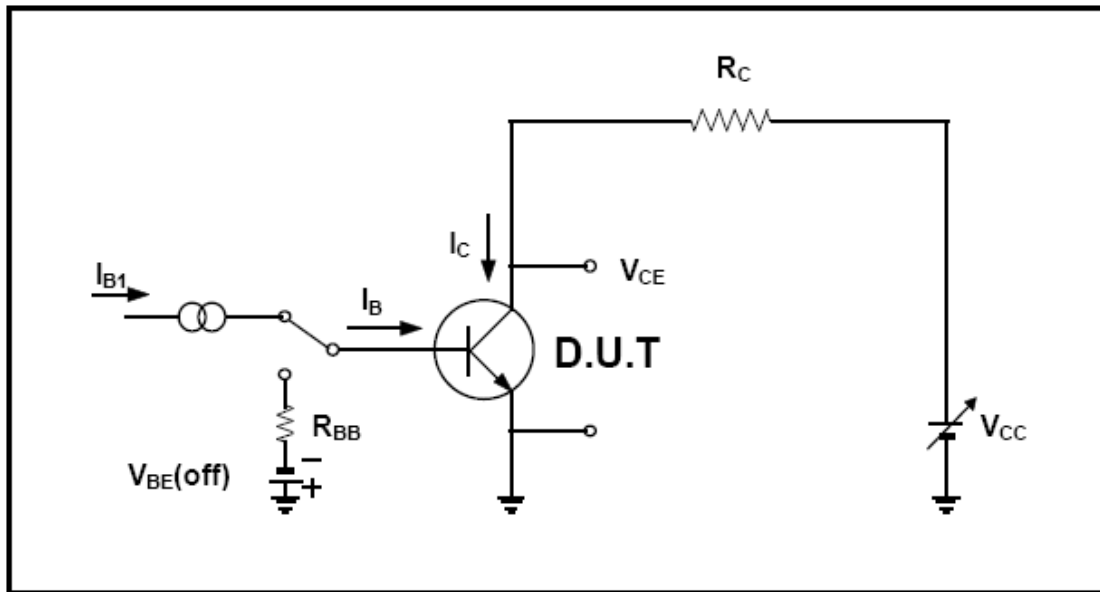


Fig.7 Resistive Load Switching Test Circuit

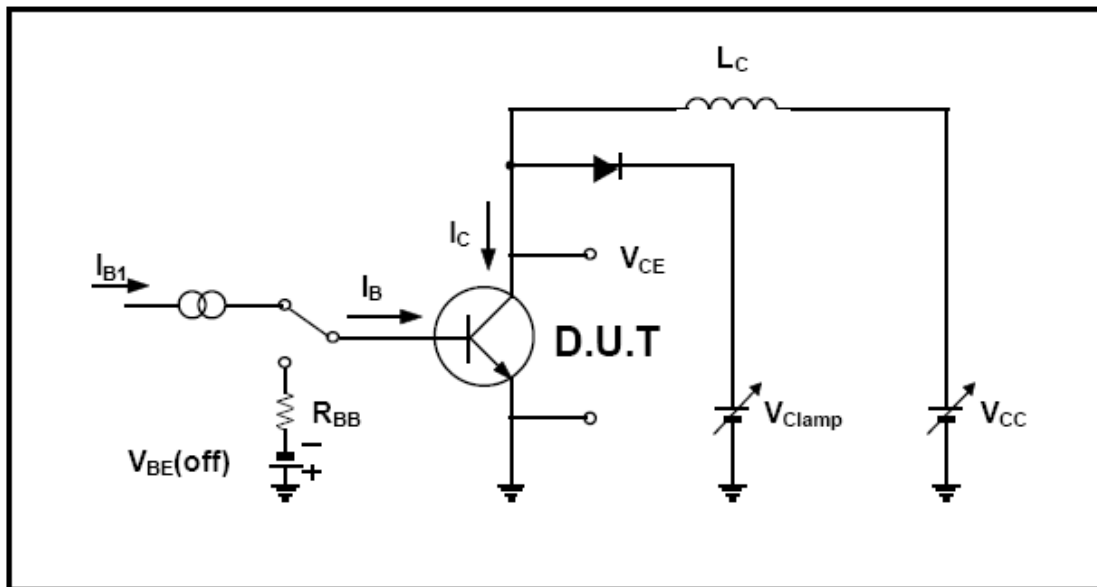


Fig.8 Inductive Load Switching & RBSOA Test Circuit

TO-126 Package Dimension

