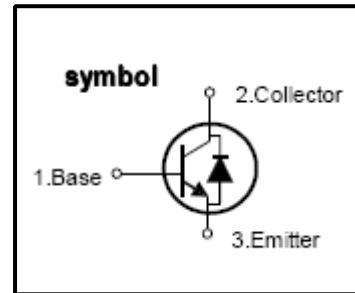


High Voltage Fast-Switching NPN Power Transistor

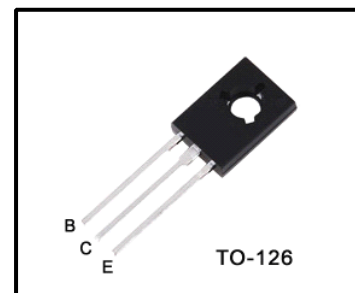
Features

- ◆ Very High Switching Speed
- ◆ High Voltage Capability
- ◆ Wide Reverse Bias 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

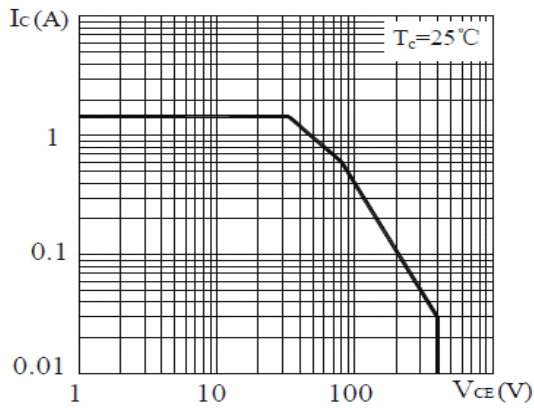
Symbol	Parameter	Test Conditions	Value	Units
V _{CES}	Collector-Emitter Voltage	V _{BE} = 0	600	V
V _{CEO}	Collector-Emitter Voltage	I _C = 1mA	450	V
V _{EBO}	Emitter-Base Voltage	I _E = 0.1mA	9	V
I _C	Collector Current		1.2	A
I _{CP}	Collector pulse Current		3.0	A
I _B	Base Current		0.75	A
I _{BM}	Base Peak Current	t _P = 5ms	1.5	A
P _C	Total Dissipation at T _c = 25°C		20	W
T _J	Operation Junction emperature		150	°C
T _{STG}	Storage Temperature		-55 ~ 150	°C

Electrical Characteristics (Tc = 25°C)

Symbol	Parameter	Test Conditions	Value			Units
			Min	Typ	Max	
BVCBO	Collector-Base Breakdown Voltage	Ic=1mA, Ib=0	600			V
BVCEO	Collector-Emitter Breakdown Voltage	Ic=10mA, Ib=0	450	-	-	V
VCE(sat)	Collector-Emitter Saturation Voltage	Ic=200mA, Ib=100mA	-	-	1.6	V
VBE(sat)	Base-Emitter Saturation Voltage	Ic=200mA, Ib=100mA	-	-	1.2	V
ICBO	Collector-Base Cutoff Current	Vcb=600V, Ie=0mA	-	-	0.1	mA
ICEO	Collector-Emitter Cutoff Current	Vce=400V, Ib=0mA	-	-	0.1	mA
IEBO	Emitter- Base Cutoff Current	Veb=9V, Ic=0mA	-	-	0.1	mA
hFE	DC Current Gain	Vce=20V, Ic=20mA	10	-	40	
		Vce=5V, Ic=1mA	9	-	-	
		Vce=2V, Ic=0.5A	15	-	25	
tr	Rise Time	IC=0.1A	-	-	1	μs
ts	Storage Time		3	-	5	
tf	Fall Time		-	-	1	

Note:

Pulse Test : Pulse width 300, Duty cycle 2%



IC[A],COLLECTOR CURRENT
Fig.1DC Current Gain

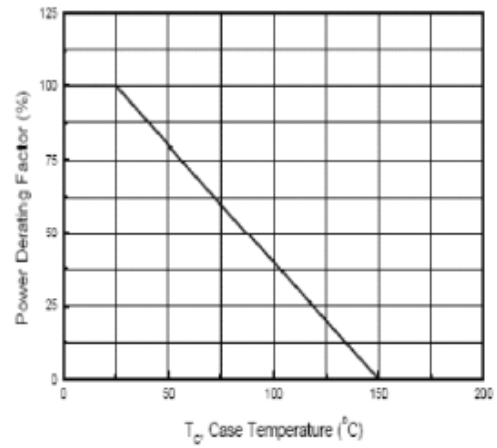
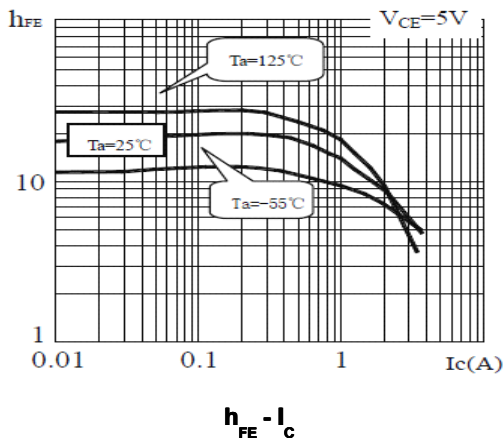
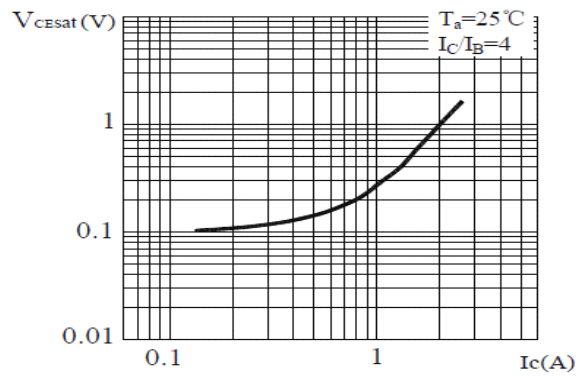


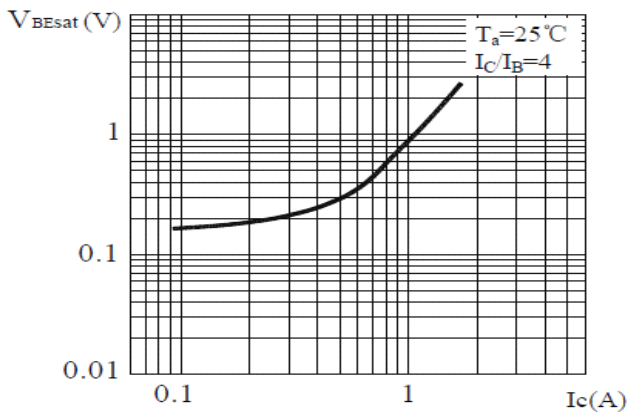
Fig.2 Power Derating



$h_{FE} - I_C$



$V_{CEsat} - I_C$



$V_{BEsat} - I_C$

TO-126 Package Dimension

