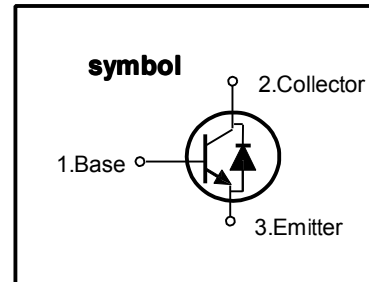


High Voltage Fast-Switching NPN Power Transistor

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	$I_B=0$	400	V
V_{EBO}	Emitter -Base Voltage	$I_C=0$	9.0	V
I_C	Collector Current		1.25	A
I_{CP}	Collector pulse Current		2.5	A
I_B	Base Current		-	A
I_{BM}	Base Peak Current	$t_p=5ms$	-	A
P_C	Total Dissipation at $T_c=25^{\circ}C$		12	W
T_J	Operation Junction Temperature		-40~150	$^{\circ}C$
T_{STG}	Storage Temperature		-40~150	$^{\circ}C$

Electrical Characteristics (Tc=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	600			V
BV _{CEO}	Collector-Emitter Breakdown Voltage	I _c =10mA, I _b =0	400	-	-	V
V _{CE(sat)}	Collector-Emitter Saturation Voltage	I _c =200mA, I _b =100mA	-	-	1.6	V
V _{BE(sat)}	Base _Emitter Saturation Voltage	I _c =200mA, I _b =100mA	-	-	1.2	V
I _{CBO}	Collector -Base Cutoff Current	V _{cb} =550V, I _e =0mA	-	-	10	μA
I _{CEO}	Collector -Emitter Cutoff Current	V _{ce} =400V, I _b =0mA	-	-	20	μA
I _{EBO}	Emitter -Base Cutoff Current	V _{eb} =9V, I _c =0mA	-	-	20	μA
hFE	DC Current Gain	V _{ce} =20V, I _c =20mA	10	-	40	
		V _{ce} =5V, I _c =1mA	9	-	-	
ts	Storage Time	V _{CC} =250V I _c =5I _b	-	-	3	μs
tf	Fall Time	I _{B1} =-I _{B2} =0.04A	-	-	0.8	

Note:

Pulse Test : Pulse width 300, Duty cycle 2%

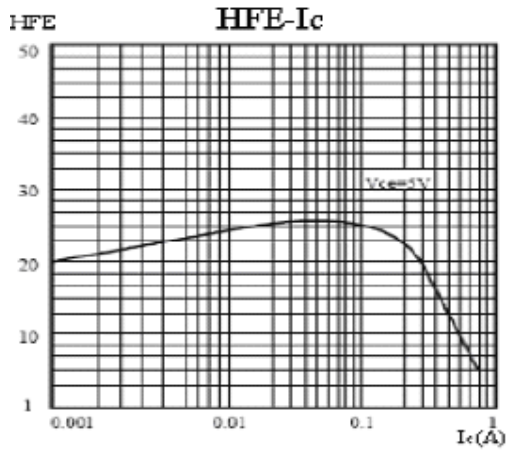


Fig.1 DC Current Gain

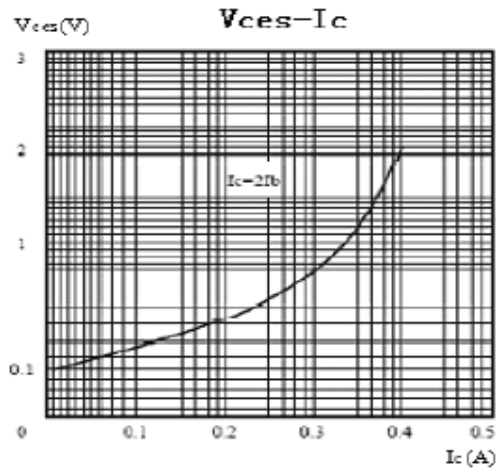


Fig.2 Saturation Voltage

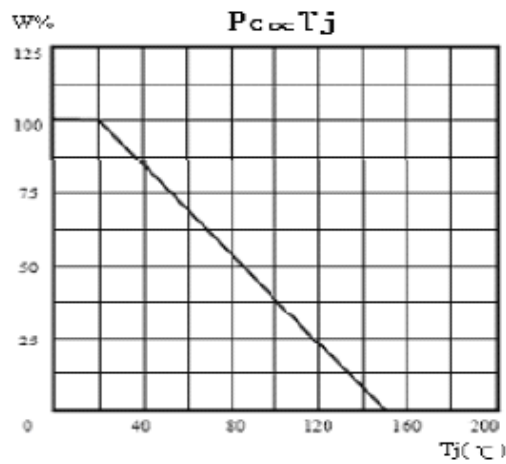


Fig.3 Power Derating

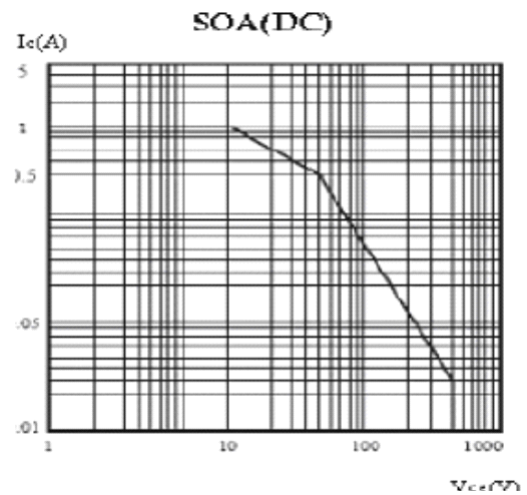


Fig.4 Safe Operation Area

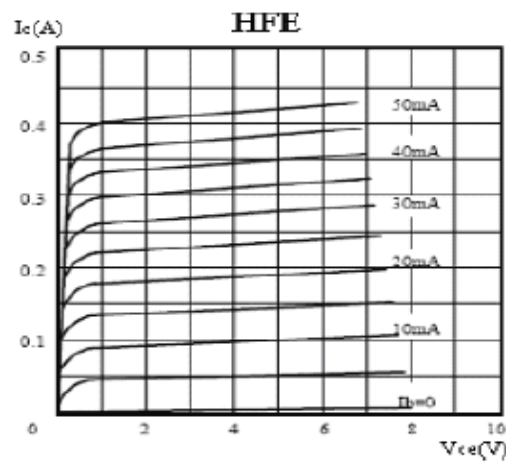


Fig.5 Static Characteristics

To-92 Package Dimension

Dim	mm			Inch		
	Min.	Typ.	Max.	Min.	Typ.	Max.
A		4.2			0.165	
B			3.7			0.146
C	4.43		4.83	0.174		0.190
D	14.07		14.87	0.554		0.585
E			0.4			0.016
F	4.43		4.83	0.174		0.190
G			0.45			0.017
H		1.27			0.050	
I		1.27			0.050	
J	0.33		0.48	0.013		0.019

