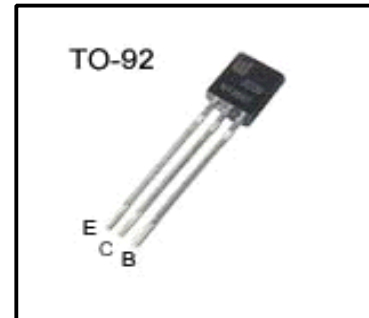


*High Voltage Fast-Switching NPN Power Transistor***Features**

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

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}	Collect-Emmitter Voltage	$V_{BE}=0$	600	V
V_{CEO}	Collector-Emmitter Voltage	$I_B=0$	400	V
V_{EBO}	Emmitter-Base Voltage	$I_C=0$	9.0	V
I_C	Collector Current		0.5	A
I_{CP}	Collector pulse Current		1.0	A
I_B	Base Current		-	A
I_{BM}	Base Peak Current	$t_p=5ms$	-	A
P_C	Total Dissipation at $T_c^*=25^\circ C$		8	W
	Total Dissipation at $T_a^*=25^\circ C$		0.6	
T_J	Operation Junction Temperature		-40~150	$^\circ C$
T_{STG}	Storage Temperature		-40~150	$^\circ C$

T_c : Case temperature (good cooling)

T_a : Ambient temperature (without heat sink)

Electrical Characteristics ($T_c=25^\circ\text{C}$ unless otherwise noted)

Symbol	Parameter	Test conditions	Value			Units
			Min	Typ	Max	
BV_{CBO}	Collector-Base Breakdown Voltage	$I_c=0.5\text{mA}, I_e=0$	600			V
BV_{CEO}	Collector-Emitter Breakdown Voltage	$I_c=10\text{mA}, I_b=0$	400	-	-	V
$V_{CE(sat)}$	Collector -Emitter Saturation Voltage	$I_c=200\text{mA}, I_b=100\text{mA}$	-	-	1.6	V
$V_{BE(sat)}$	Base -Emitter saturation Voltage	$I_c=200\text{mA}, I_b=100\text{mA}$	-	-	1.2	V
I_{CBO}	Collector -Base Cutoff Current	$V_{cb}=550\text{V}, I_e=0\text{mA}$	-	-	10	μA
I_{CEO}	Collector -Emitter Cutoff Current	$V_{ce}=400\text{V}, I_b=0\text{mA}$	-	-	20	μA
I_{EBO}	Emitter -Base Cutoff Current	$V_{eb}=9\text{V}, I_c=0\text{mA}$	-	-	20	μA
hFE	DC Current Gain	$V_{ce}=20\text{V}, I_c=20\text{mA}$	10	-	40	
		$V_{ce}=5\text{V}, I_c=1\text{mA}$	9	-	-	
ts	Storage Time	$V_{CC}=250\text{V}$ $I_C=5 I_B$	2	-	-	μs
tf	Fall Time	$I_{B1}=-I_{B2}=0.04\text{A}$	-	-	0.8	

Note:

Pulse Test: Pulse width 300,Duty cycle 2%

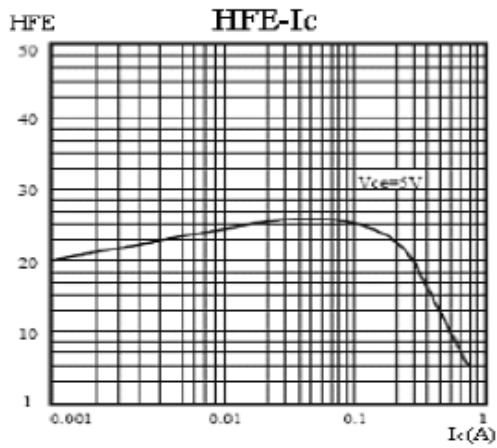


Fig.1 DC Current Gain

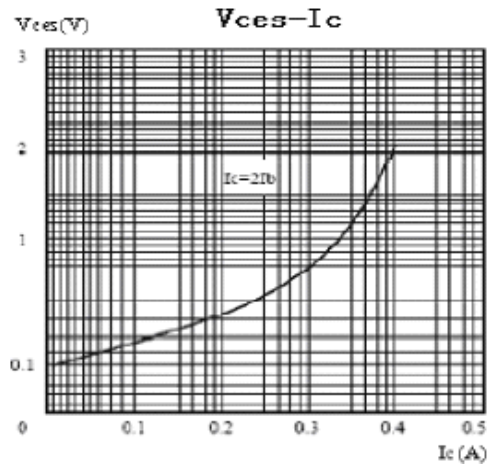


Fig.2 Saturation Voltage

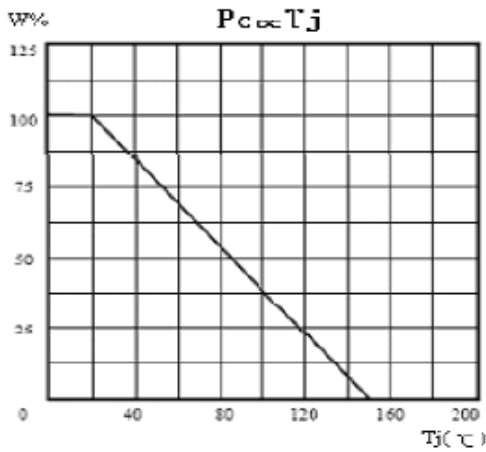


Fig.3 Power Derating

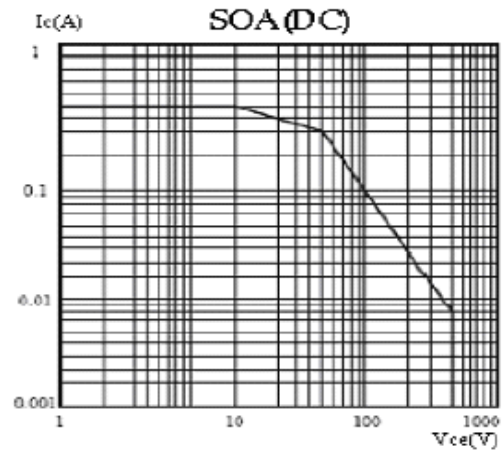


Fig.4 Safe Operation Area

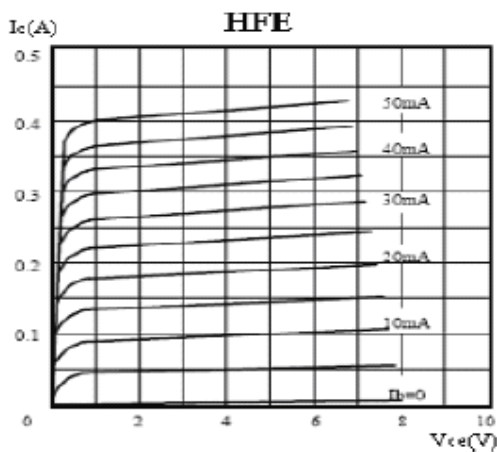
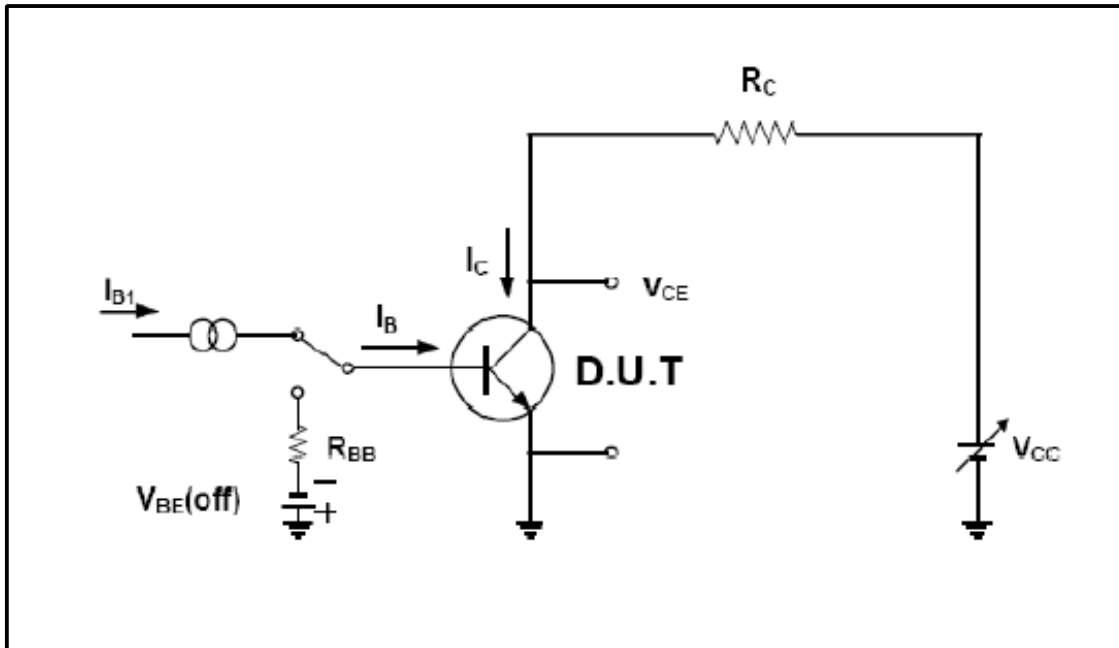
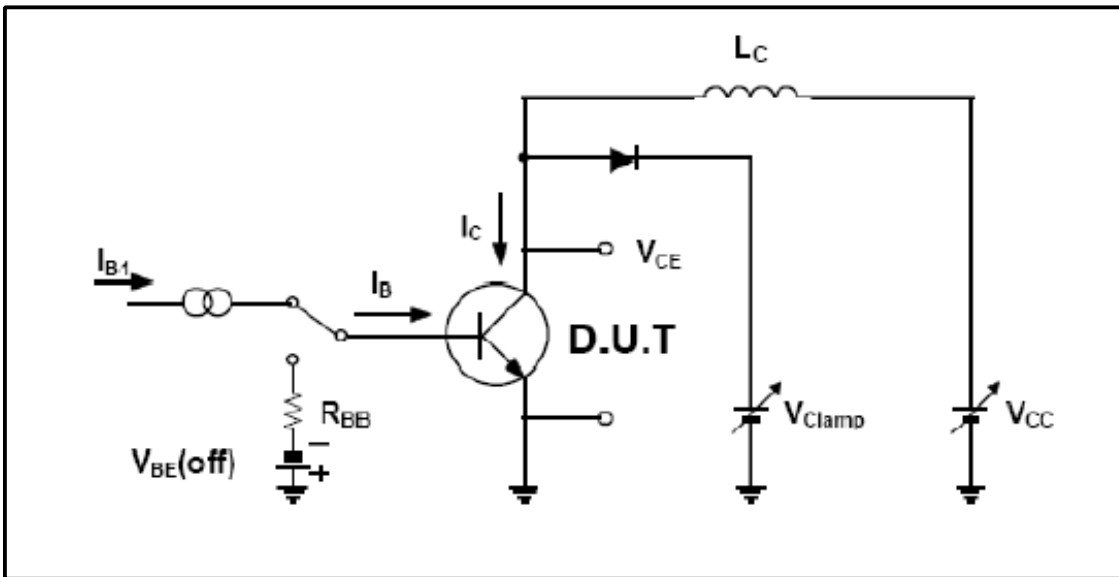


Fig.5 Static Characteristics



Inductive Load Switching & RBSOA Test Circuit



Inductive Load Switching & RBSOA Test Circuit

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

