Shantou Huashan Electronic Devices Co.,Ltd.

NPN SILICON TRANSISTOR

HE13002

APPLICATIONS

High Voltage switching And Speed Switching

ABSOLUTE MAXIMUM RATINGS (T_a=25℃)

T_{stg}——Storage Temperature…… -55~150℃

T_j——Junction Temperature……150℃

P_C——Collector Dissipation……1W

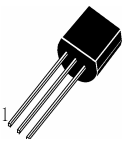
V_{CBO}——Collector-Base Voltage……600V

V_{CEO}——Collector-Emitter Voltage……400V

V_{EBO}——Emitter-Base Voltage……9V

I_C——Collector Current……1A

TO-92



1—Emitter，E
2—Collector，C
3—Base，B

ELECTRICAL CHARACTERISTICS (T_a=25℃)

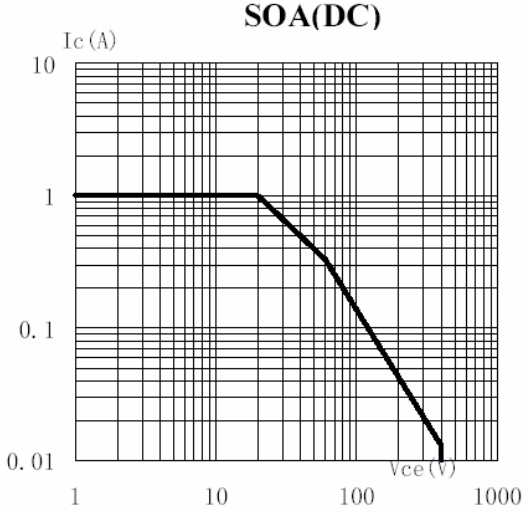
Symbol	Characteristics	Min	Typ	Max	Unit	Test Conditions
BV_{CBO}	Collector-Base Breakdown Voltage	600			V	I_C=1mA, I_E=0
BV_{CEO}	Collector-Emitter Breakdown Voltage	400			V	I_C=10mA, I_B=0
BV_{EBO}	Emitter-Base Breakdown Voltage	9			V	I_E=1mA，I_C=0
I_{CBO}	Collector Cut-off Current			10	μA	V_{CB}=500V, I_E=0
I_{EBO}	Emitter-Base Cut-off Current			10	μA	V_{EB}=9V, I_C=0
H_{FE}	DC Current Gain	10		40		V_{CE}=10V, I_C=0.1A
$V_{CE(sat1)}$	Collector- Emitter Saturation Voltage			0.5	V	I_C=0.2A, I_B=40mA
$V_{CE(sat2)}$	Collector- Emitter Saturation Voltage			1.0	V	I_C=0.5A, I_B=100mA
$V_{CE(sat3)}$	Collector- Emitter Saturation Voltage			3	V	I_C=0.8A, I_B=200mA
$V_{BE(sat)}$	Base-Emitter Saturation Voltage			1.2	V	I_C=0.5A, I_B=100mA
f_T	Current Gain-Bandwidth Product	8			MHz	V_{CE}=10V, I_C=0.1A,f=1MHz
t_{ON}	Turn-On Time			1.1	μS	V_{CC}=125V, I_C=1A
t_{STG}	Storage Time			4.0	μS	I_{B1}=-I_{B2}=0.2A
t_F	Fall Time			0.7	μS	R_L=125Ω

h_{FE} Classification

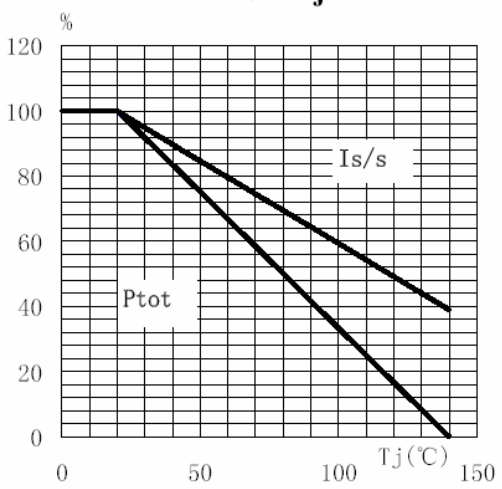
H1	H2	H3	H4	H5
10-16	14-21	19-26	24-31	29-40

HE13002

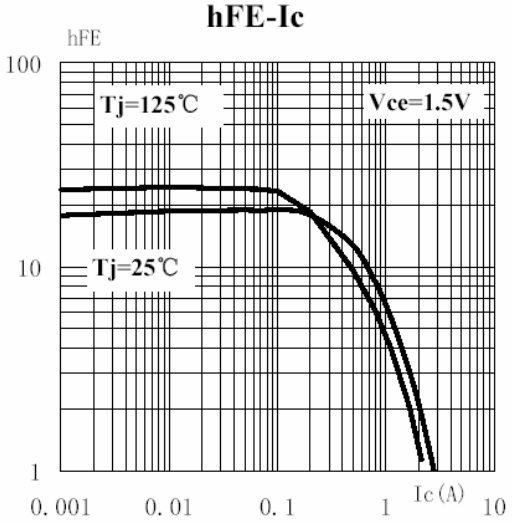
SOA(DC)



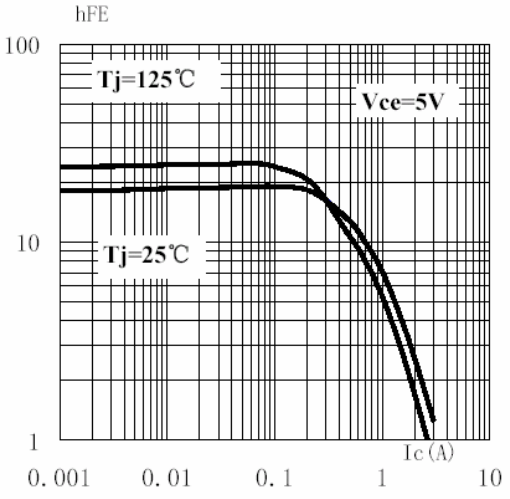
Pc∝Tj



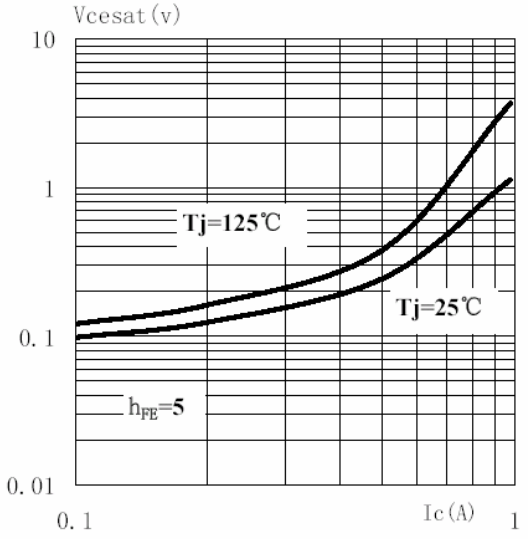
hFE-Ic



hFE-Ic



Vcesat-Ic



Vbesat-Ic

