Shantou Huashan Electronic Devices Co.,Ltd.

NPN SILICON TRANSISTOR

KSH13009W

HIGH VOLTAGE SWITCH MODE APPLICICATIONS

High Speed Switching
Suitable for Switching Regulator and Montor Control

ABSOLUTE MAXIMUM RATINGS（T_a=25℃）

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

T_j——Junction Temperature…… 150℃

P_C——Collector Dissipation（T_c=25℃）…… 100W

V_{CBO}——Collector-Base Voltage…… 700V

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

V_{EBO}——Emitter-Base Voltage…… 9V

I_C——Collector Current（DC）…… 12A

I_B——Base Current……6A

TO-263（D2PAK）

1－Base，B
2－Collector，C
3－Emitter, E

ELECTRICAL CHARACTERISTICS（T_a=25℃）

Symbol	Characteristics	Min	Typ	Max	Unit	Test Conditions
BV_{CEO}	Collector-Emitter Breakdown Voltage	400			V	I_C=10mA, I_B=0
I_{EBO}	Emitter-Base Cut-off Current			1	mA	V_{EB}=9V, I_C=0
H_{FE}（1）	DC Current Gain	8		40		V_{CE}=5V, I_C=5A
H_{FE}（2）		6		30		V_{CE}=5V, I_C=8A
$V_{CE(sat)1}$	Collector- Emitter Saturation Voltage			1	V	I_C=5A, I_B=1A
$V_{CE(sat)2}$				1.5	V	I_C=8A, I_B=1.6A
$V_{CE(sat)3}$				3	V	I_C=12A, I_B=3A
$V_{BE(sat)1}$	Base-Emitter Saturation Voltage			1.2	V	I_C=5A, I_B=1A
$V_{BE(sat)2}$				1.6	V	I_C=8A, I_B=1.6A
Cob	Output Capacitance		180		pF	V_{CB}=10V,f=0.1MHz
f_T	Current Gain-Bandwidth Product	4			MHz	V_{CE}=10V,I_C=0.5A
t_{ON}	Turn On Time			1.1	μs	V_{CC}=125V, I_C=8A, I_{B1}=1.6A,I_{B2}=-1.6A
t_{STG}	Storage Time			3	μs	
t_F	Fall Time			0.7	μs	

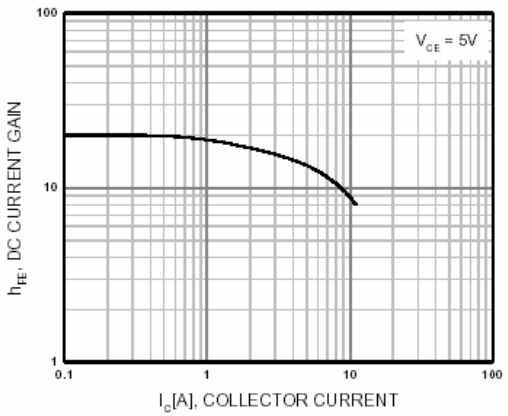

Figure 1. DC current Gain

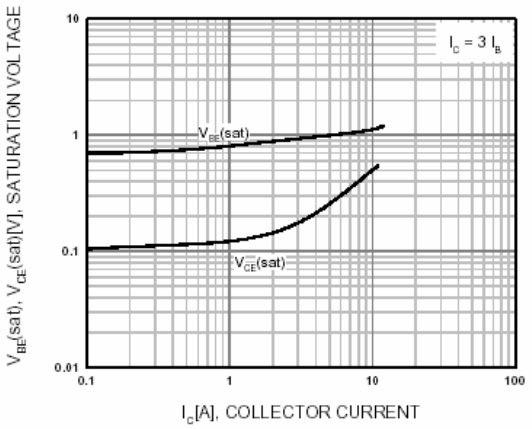

Figure 2. Base-Emitter Saturation Voltage
Collector-Emitter Saturation Voltage

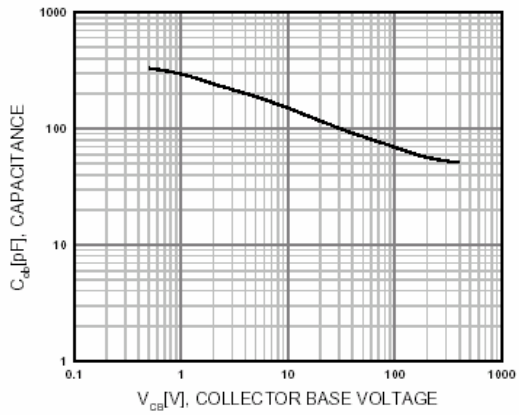

Figure 3. Collector Output Capacitance

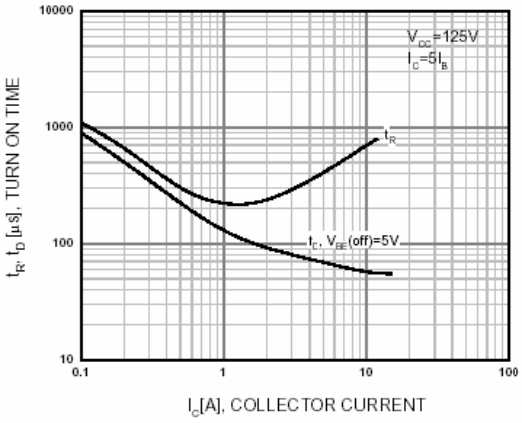

Figure 4. Turn On Time

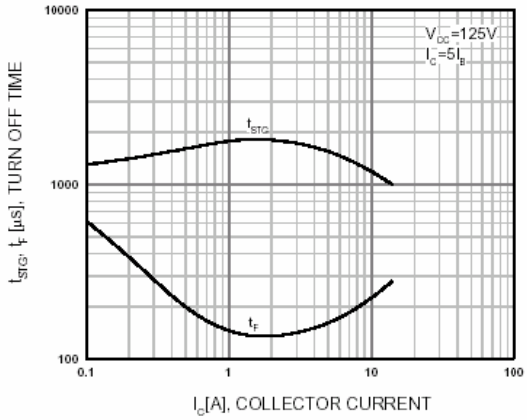

Figure 5. Turn Off Time

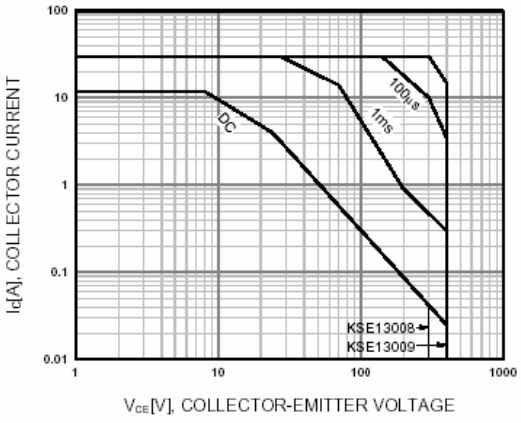

Figure 6. Safe Operating Area

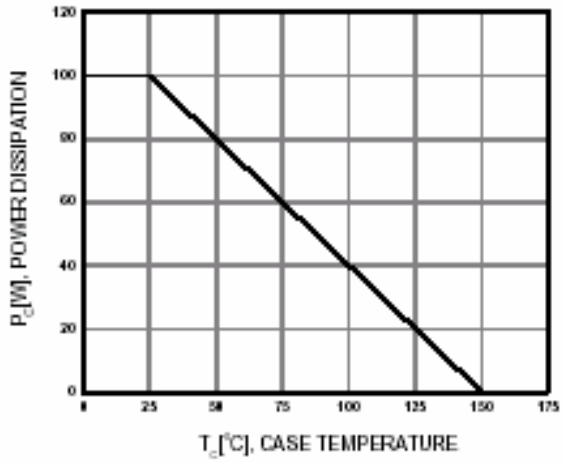

Figure 7. DC current Gain