



KSH13009W

■ HIGH VOLTAGE SWITCH MODE APPLICATIONS

High Speed Switching

Suitable for Switching Regulator and Motor Control

■ ABSOLUTE MAXIMUM RATINGS (T_a=25°C)

T _{stg}	Storage Temperature	-55~150°C
T _j	Junction Temperature	150°C
P _C	Collector Dissipation (T _c =25°C)	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°C)

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
C _{ob}	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	

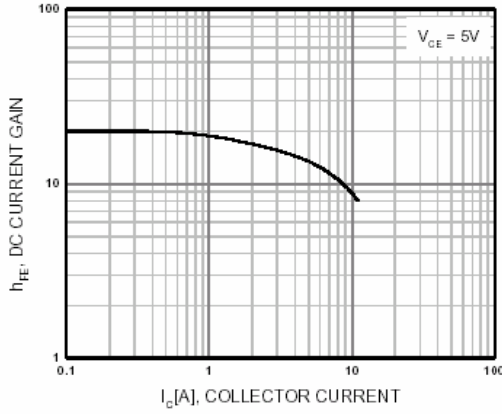


Figure 1. DC current Gain

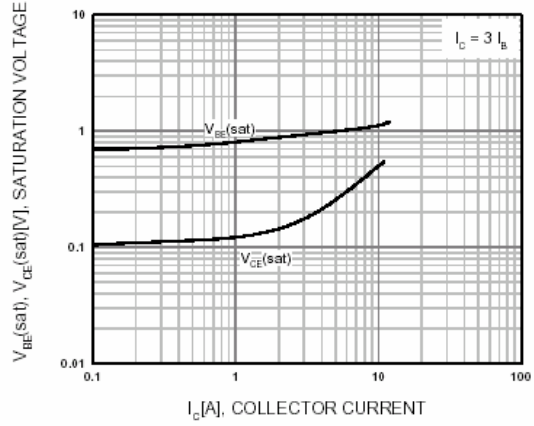


Figure 2. Base-Emitter Saturation Voltage
Collector-Emitter Saturation Voltage

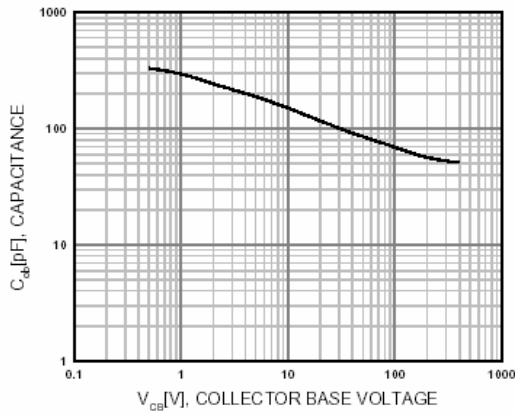


Figure 3. Collector Output Capacitance

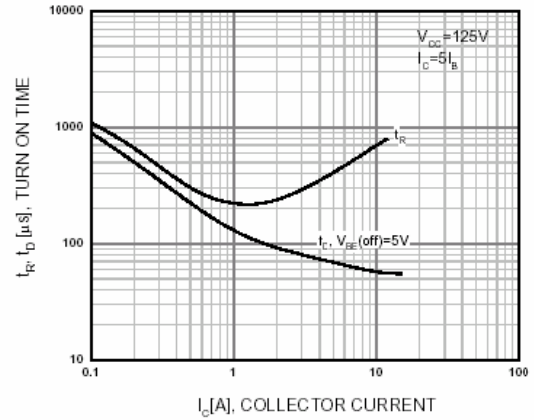


Figure 4. Turn On Time

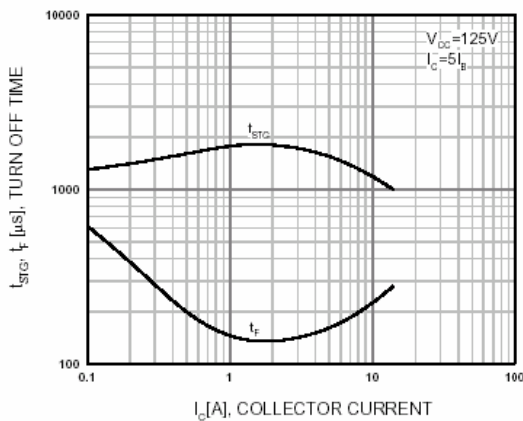


Figure 5. Turn Off Time

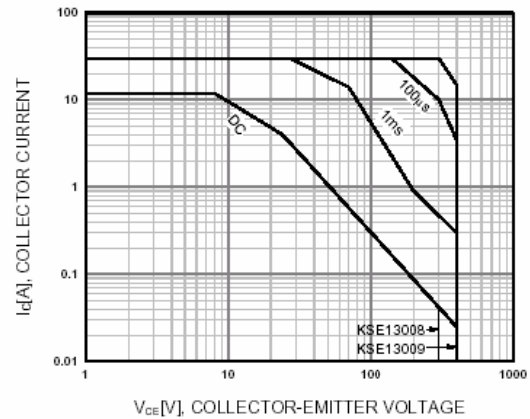


Figure 6. Safe Operating Area



Shantou Huashan Electronic Devices Co., Ltd.

NPN SILICON TRANSISTOR

KSH13009W

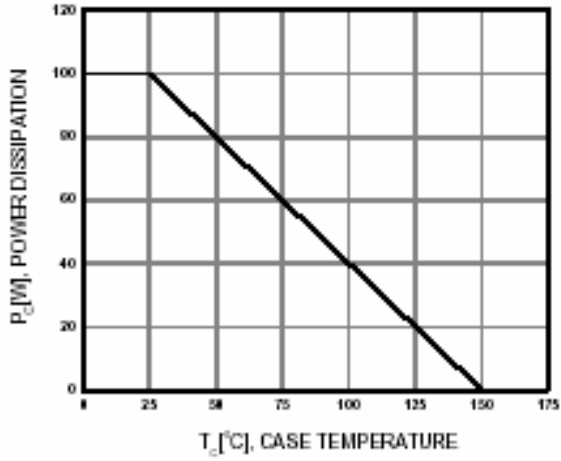


Figure 7. DC current Gain