



HIGH VOLTAGE SWITCH MODE APPLICATION

High Speed Switching

Suitable for Switching Regulator and Monitor Control

ABSOLUTE MAXIMUM RATINGS ($T_a=25^{\circ}\text{C}$)

T_{stg} —Storage Temperature..... $-55\sim 150^{\circ}\text{C}$

T_j —Junction Temperature..... 150°C

P_C —Collector Dissipation ($T_c=25^{\circ}\text{C}$) 75W

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

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

V_{EBO} —Emitter-Base Voltage..... 9V

I_C —Collector Current (DC) 4A

I_C —Collector Current (Pulse) 8A

I_B —Base Current.....2A

TO-263 (D2PAK)



1—Base, B

2—Collector, C

3—Emitter, E

电参数 ($T_a=25^{\circ}\text{C}$)

Symbol	Characteristics	Min	Typ	Max	Unit	Test Conditions
BV_{CEO}	Collector-Emitter Sustaining Voltage	400			V	$I_C=10\text{mA}$, $I_B=0$
I_{EBO}	Emitter-Base Cut-off Current			1	mA	$V_{\text{EB}}=9\text{V}$, $I_C=0$
H_{FE}	DC Current Gain	10		40		$V_{\text{CE}}=5\text{V}$, $I_C=1\text{A}$
		8		40		$V_{\text{CE}}=5\text{V}$, $I_C=2\text{A}$
$V_{\text{CE(sat)}}$	Collector- Emitter Saturation Voltage			0.5	V	$I_C=1\text{A}$, $I_B=0.2\text{A}$
				0.6	V	$I_C=2\text{A}$, $I_B=0.5\text{A}$
				1	V	$I_C=4\text{A}$, $I_B=1\text{A}$
$V_{\text{BE(sat)}}$	Base- Emitter Saturation Voltage			1.2	V	$I_C=1\text{A}$, $I_B=0.2\text{A}$
				1.6	V	$I_C=2\text{A}$, $I_B=0.5\text{A}$
C_{ob}	Output Capacitance		65		pF	$V_{\text{CB}}=10\text{V}$, $f=0.1\text{MHz}$
f_T	Current Gain-Bandwidth Product	4			MHz	$V_{\text{CE}}=10\text{V}$, $I_C=0.5\text{A}$
t_{ON}	Turn On Time			0.8	μs	$V_{\text{CC}}=125\text{V}$, $I_C=2\text{A}$, $I_{\text{B1}}=-I_{\text{B2}}=0.4\text{A}$
t_{S}	Storage Time			4	μs	
t_{F}	Fall Time			0.9	μs	

h_{FE} classification: H1 (10--16) H2 (14--21) H3 (19--26) H4 (24--31) H5 (29--40)

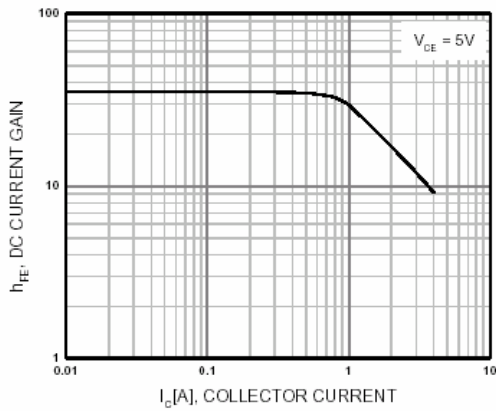


Figure 1. DC current Gain

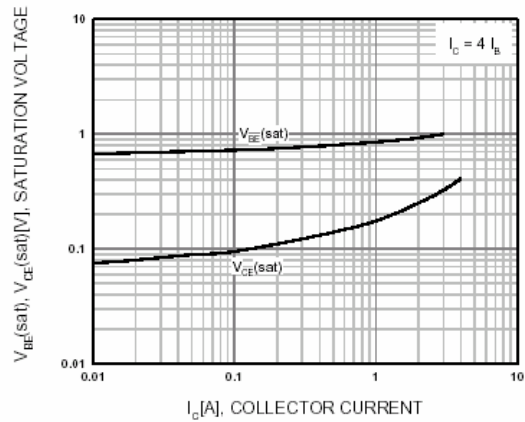


Figure 2. Base-Emitter Saturation Voltage
Collector-Emitter Saturation Voltage

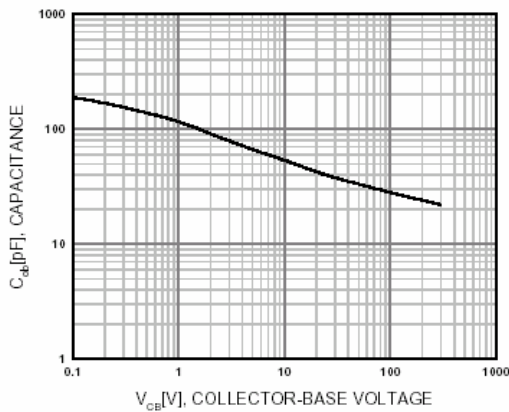


Figure 3. Collector Output Capacitance

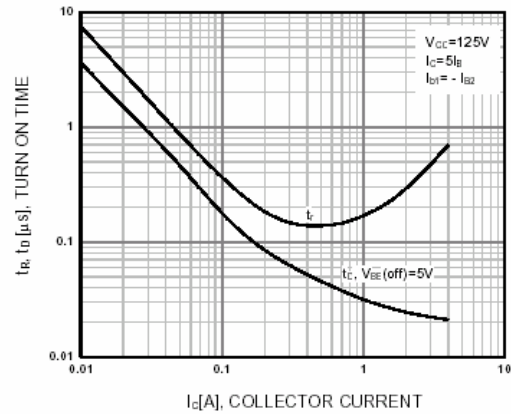


Figure 4. Turn On Time

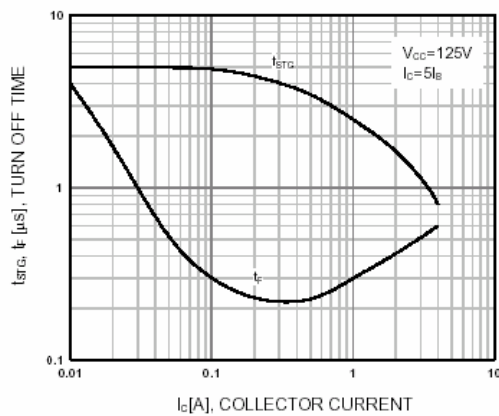


Figure 5. Turn Off Time

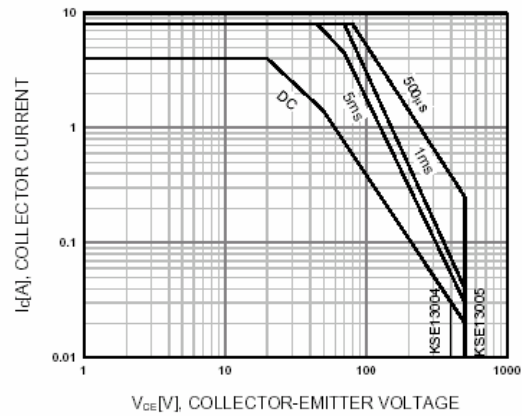


Figure 6. Safe Operating Area



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NPN SILICON TRANSISTOR

KSH13005W

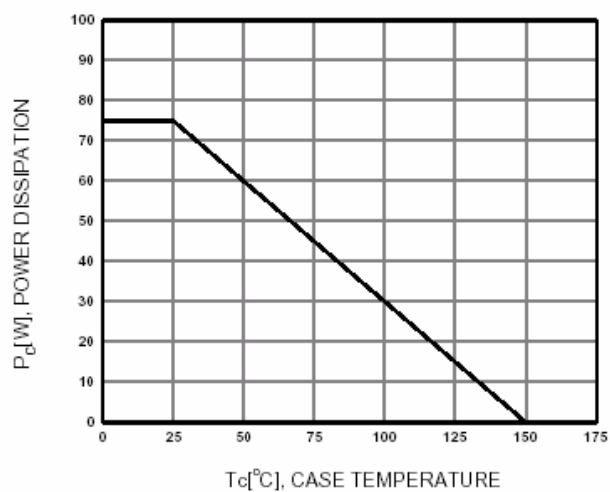


Figure 7. Power Derating