

**HE13005****HIGH VOLTAGE SWITCH MODE APPLICATION**

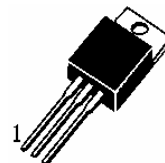
High Speed Switching

Suitable for Switching Regulator and Motor Control

ABSOLUTE MAXIMUM RATINGS ($T_a=25$)

T_{stg}	Storage Temperature.....	-65~150
T_j	Junction Temperature.....	150
P_C	Collector Dissipation ($T_c=25$)	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-220AB



- 1—Base , B
2—Collector , C
3—Emitter, E

电参数 ($T_a=25$)

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 Cut-off Current			1	mA	$V_{EB}=9V$, $I_C=0$
H _{FE} (1)	DC Current Gain	10		40		$V_{CE}=5V$, $I_C=10A$
H _{FE} (2)		8		40		$V_{CE}=5V$, $I_C=2A$
V _{CE(sat1)}	Collector- Emitter Saturation Voltage			0.5	V	$I_C=1A$, $I_B=0.2A$
V _{CE(sat2)}				0.6	V	$I_C=2A$, $I_B=0.5A$
V _{CE(sat3)}				1	V	$I_C=4A$, $I_B=1A$
V _{BE(sat1)}	Base-Emitter Saturation Voltage			1.2	V	$I_C=1A$, $I_B=0.2A$
V _{BE(sat2)}				1.6	V	$I_C=2A$, $I_B=0.5A$
C _{ob}	Output Capacitance		65		pF	$V_{CB}=10V$, $f=0.1MHz$
f _r	Current Gain-Bandwidth Product	4			MHz	$V_{CE}=10V$, $I_C=0.5A$
t _{ON}	Turn-On Time			0.8	μS	$V_{CC}=125V$, $I_C=2A$ $I_{B1}=-I_{B2}=0.4A$
t _{STG}	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)

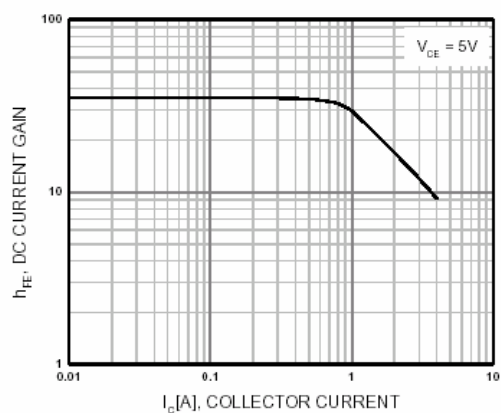


Figure 1. DC current Gain

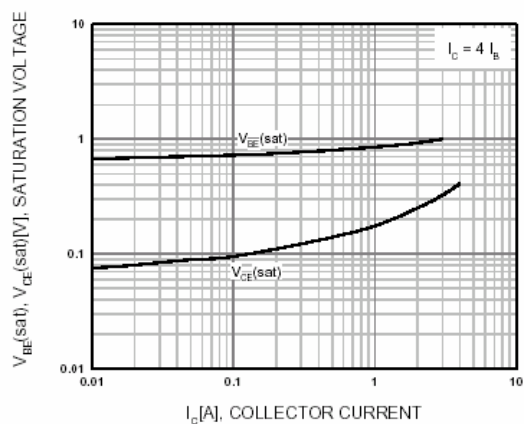


Figure 2. Base-Emitter Saturation Voltage
Collector-Emitter Saturation Voltage

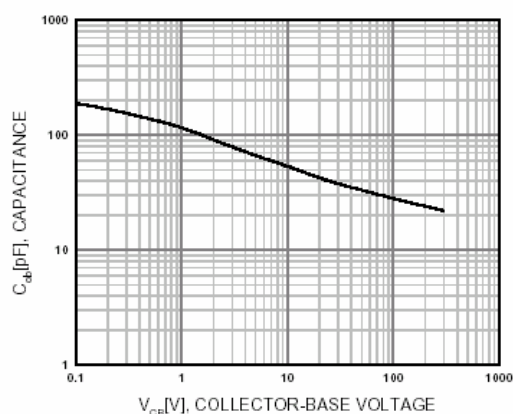


Figure 3. Collector Output Capacitance

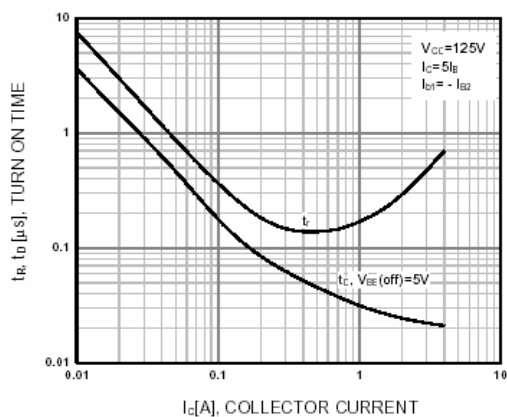


Figure 4. Turn On Time

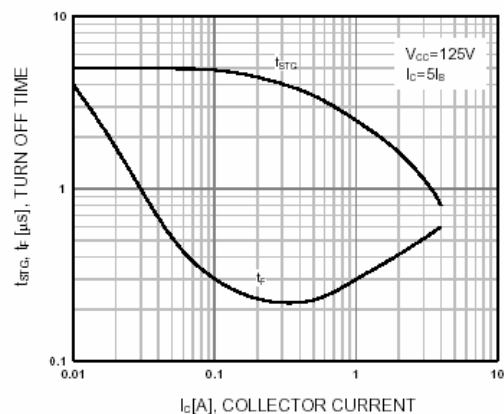


Figure 5. Turn Off Time

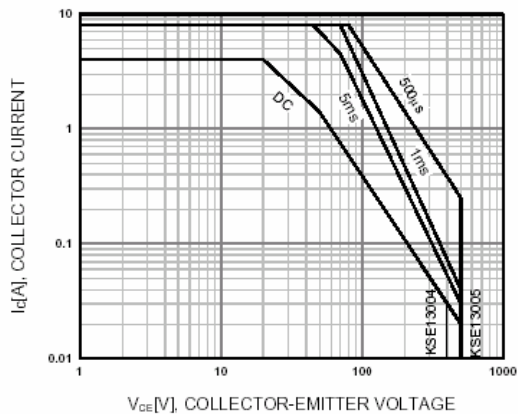


Figure 6. Safe Operating Area

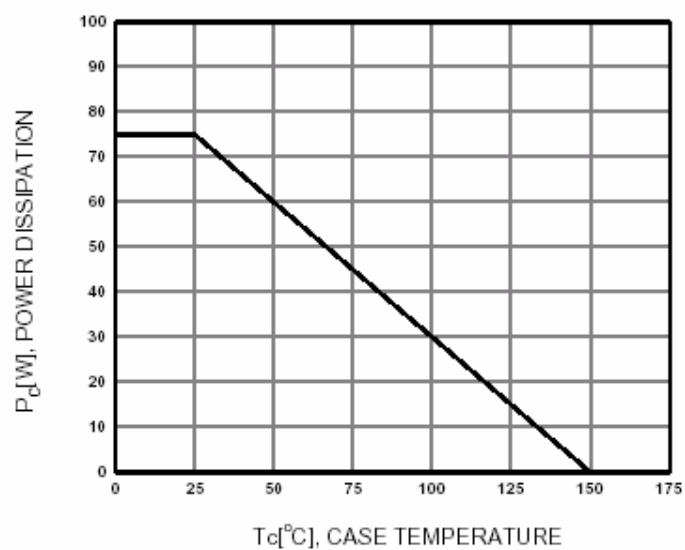


Figure 7. Power Derating