



■ HIGH VOLTAGE SWITCH MODE APPLICATIONS

High Speed Switching
Suitable for Switching Regulator and Motor Control

■ ABSOLUTE MAXIMUM RATINGS (Ta=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 (Ta=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	

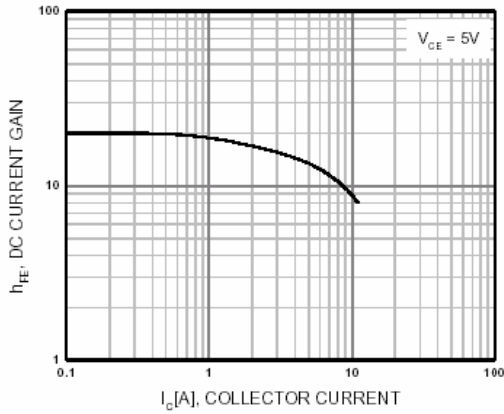


Figure 1. DC current Gain

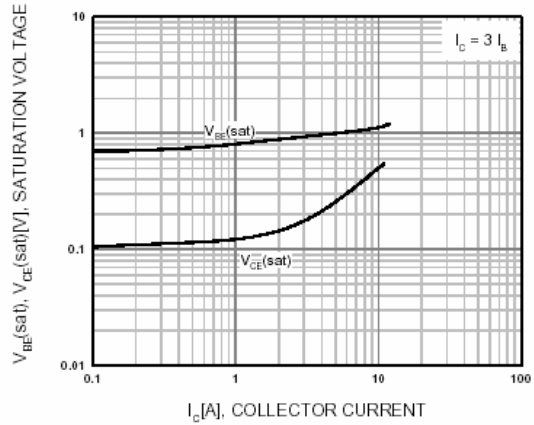


Figure 2. Base-Emitter Saturation Voltage
Collector-Emitter Saturation Voltage

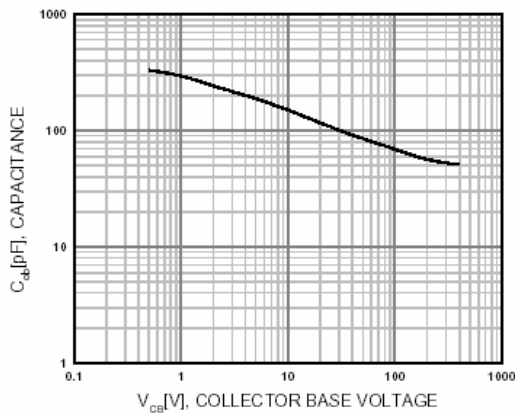


Figure 3. Collector Output Capacitance

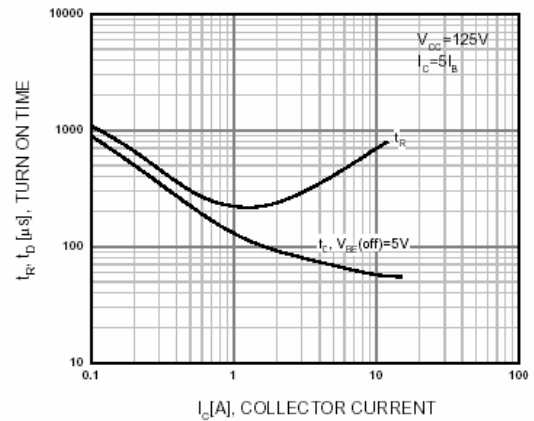


Figure 4. Turn On Time

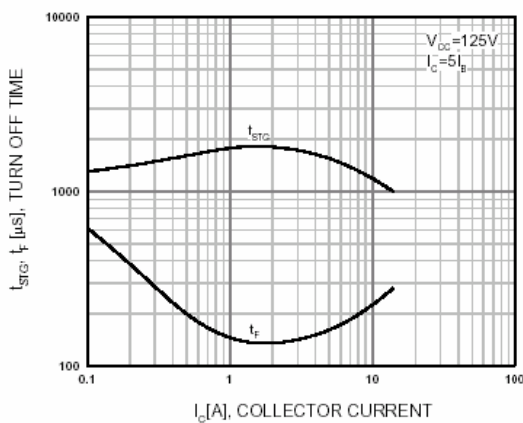


Figure 5. Turn Off Time

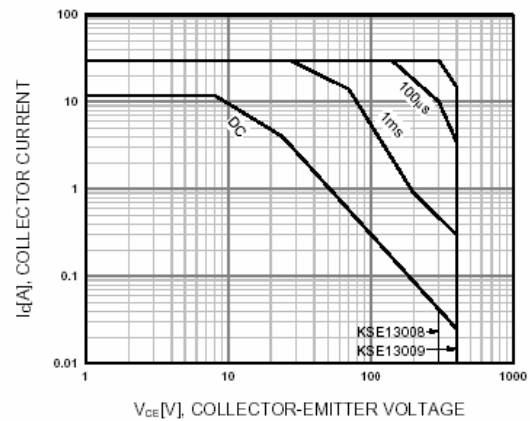


Figure 6. Safe Operating Area

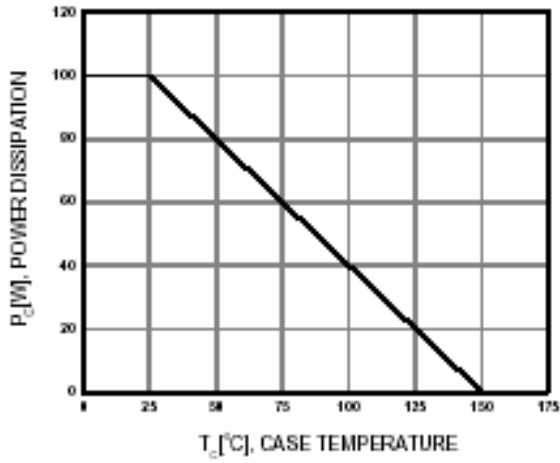


Figure 7. DC current Gain