

KSE13009L

High Voltage Switch Mode Applications

- High Speed Switching
- Suitable for Switching Regulator and Motor Control



NPN Silicon Transistor

Absolute Maximum Ratings T_C=25°C unless otherwise noted

Symbol	Parameter	Value	Units
V _{CBO}	Collector-Base Voltage	700	V
V _{CEO}	Collector-Emitter Voltage	400	V
V _{EBO}	Emitter-Base Voltage	9	V
I _C	Collector Current (DC)	12	Α
I _{CP}	Collector Current (Pulse)	24	Α
I _B	Base Current	6	Α
P _C	Collector Dissipation (T _C =25°C)	130	W
T _J	Junction Temperature	150	°C
T _{STG}	Storage Temperature	- 65 ~ 150	°C

Electrical Characteristics $T_C=25$ °C unless otherwise noted

Symbol	Parameter	Test Condition	Min.	Тур.	Max.	Units
V _{CEO} (sus)	Collector-Emitter Sustaining Voltage	$I_C = 10 \text{mA}, I_B = 0$	400			V
I _{EBO}	Emitter Cut-off Current	$V_{EB} = 7V, I_{C} = 0$			1	mA
h _{FE}	DC Current Gain	$V_{CE} = 5V, I_{C} = 5A$	8		40	
		$V_{CE} = 5V, I_{C} = 8A$	6		30	
V _{CE} (sat)	Collector-Emitter Saturation Voltage	$I_C = 5A, I_B = 1A$			1	V
		$I_C = 8A, I_B = 1.6A$			1.5	V
		$I_{C} = 12A, I_{B} = 3A$			3	V
V _{BE} (sat)	Base-Emitter Saturation Voltage	$I_{C} = 5A, I_{B} = 1A$			1.2	V
		$I_C = 8A, I_B = 1.6A$			1.6	V
C _{ob}	Output Capacitance	V _{CB} = 10V , f = 0.1MHz		180		pF
f _T	Current Gain Bandwidth Product	$V_{CE} = 10V, I_{C} = 0.5A$	4			MHz
t _{ON}	Turn ON Time	V _{CC} =125V, I _C = 8A			1.1	μs
t _{STG}	Storage Time	$I_{B1} = -I_{B2} = 1.6A$			3	μs
t _F	Fall Time	$R_L = 15,6\Omega$			0.7	μs

^{*} Pulse test: PW≤300μs, Duty cycle≤2% Pulse

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Typical Characteristics

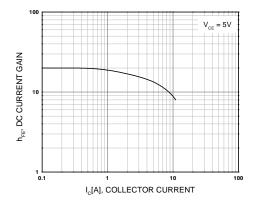


Figure 1. DC current Gain

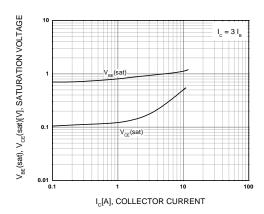


Figure 2. Base-Emitter Saturation Voltage Collector-Emitter Saturation Voltage

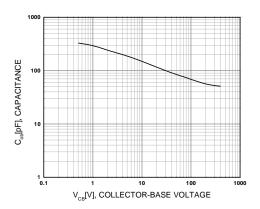


Figure 3. Collector Output Capacitance

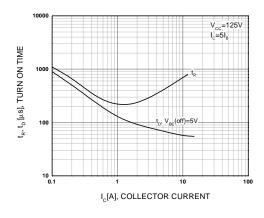


Figure 4. Turn On Time

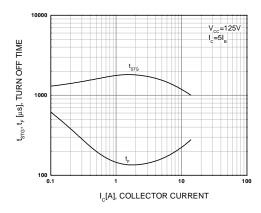
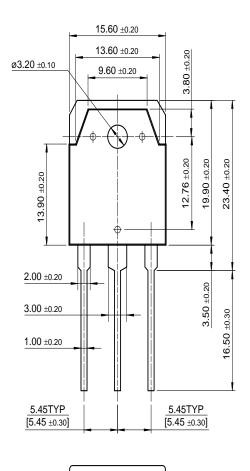
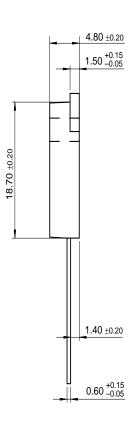


Figure 5. Turn Off Time

Package Demensions

TO-3P





Dimensions in Millimeters

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