

**KSH13009****HIGH VOLTAGE SWITCH MODE APPLICATIONS**

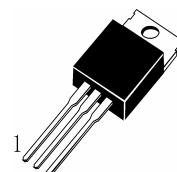
High Speed Switching

Suitable for Switching Regulator and Monitor Control

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

T_{stg}	Storage Temperature.....	-55~150
T_j	Junction Temperature.....	150
P_C	Collector Dissipation($T_c=25^\circ\text{C}$).....	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-220



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

ELECTRICAL CHARACTERISTICS ($T_a=25^\circ\text{C}$)

Symbol	Characteristics	Min	Typ	Max	Unit	Test Conditions
BV_{CEO}	Collector-Emitter Breakdown Voltage	400			V	$I_C=10\text{mA}$, $I_B=0$
I_{EBO}	Emitter-Base Cut-off Current			1	mA	$V_{EB}=9\text{V}$, $I_C=0$
$H_{FE}(1)$	DC Current Gain	8		40		$V_{CE}=5\text{V}$, $I_C=5\text{A}$
$H_{FE}(2)$		6		30		$V_{CE}=5\text{V}$, $I_C=8\text{A}$
$V_{CE(sat)1}$	Collector- Emitter Saturation Voltage			1	V	$I_C=5\text{A}$, $I_B=1\text{A}$
$V_{CE(sat)2}$				1.5	V	$I_C=8\text{A}$, $I_B=1.6\text{A}$
$V_{CE(sat)3}$				3	V	$I_C=12\text{A}$, $I_B=3\text{A}$
$V_{BE(sat)1}$	Base-Emitter Saturation Voltage			1.2	V	$I_C=5\text{A}$, $I_B=1\text{A}$
$V_{BE(sat)2}$				1.6	V	$I_C=8\text{A}$, $I_B=1.6\text{A}$
C_{ob}	Output Capacitance		180		pF	$V_{CB}=10\text{V}$, $f=0.1\text{MHz}$
f_r	Current Gain-Bandwidth Product	4			MHz	$V_{CE}=10\text{V}$, $I_C=0.5\text{A}$
t_{ON}	Turn On Time			1.1	μs	$V_{CC}=125\text{V}$, $I_C=8\text{A}$, $I_{B1}=1.6\text{A}$, $I_{B2}=-1.6\text{A}$
t_{STG}	Storage Time			3	μs	
t_F	Fall Time			0.7	μs	