

KSE13004/13005

NPN SILICON TRANSISTOR

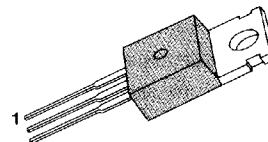
HIGH VOLTAGE SWITCH MODE APPLICATION

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

ABSOLUTE MAXIMUM RATINGS

Characteristic	Symbol	Rating	Unit
Collector Base Voltage : KSE13004	V_{CBO}	600	V
: KSE13005		700	V
Collector Emitter Voltage : KSE13004	V_{CEO}	300	V
: KSE13005		400	V
Emitter Base Voltage	V_{EBO}	9	V
Collector Current (DC)	I_C	4	A
Collector Current (Pulse)	I_C	8	A
Base Current	I_B	2	W
Collector Dissipation ($T_C=25^{\circ}C$)	P_C	75	W
Junction Temperature	T_J	150	$^{\circ}C$
Storage Temperature	T_{STG}	-65 ~ 150	$^{\circ}C$

TO-220



1.Base 2.Collector 3.Emitter

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

Characteristic	Symbol	Test Conditions	Min	Typ	Max	Unit
Collector Emitter Sustaining Voltage : KSE13004	$V_{CEO(sus)}$	$I_C = 10mA, I_B = 0$	300			V
: KSE13005			400			V
Emitter Cutoff Current	I_{EBO}	$V_{EB} = 9V, I_C = 0$			1	mA
* DC Current Gain	h_{FE}	$V_{CE} = 5V, I_C = 1A$	10		60	
		$V_{CE} = 5V, I_C = 2A$	8		40	
* Collector Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C = 1A, I_B = 0.2A$			0.5	V
		$I_C = 2A, I_B = 0.5A$			0.6	V
		$I_C = 4A, I_B = 1A$			1	V
* Base Emitter Saturation Voltage	$V_{BE(sat)}$	$I_C = 1A, I_B = 0.2A$			1.2	V
		$I_C = 2A, I_B = 0.5A$			1.6	V
Output Capacitance	C_{OB}	$V_{CB} = 10V, f = 0.1MHz$		65		pF
Current Gain Bandwidth Product	f_T	$V_{CE} = 10V, I_C = 0.5A$	4			MHz
Turn On Time	t_{ON}	$V_{CC} = 125V, I_C = 2A$			0.8	μs
Storage Time	t_S	$I_{B1} = -I_{B2} = 0.4A$			4	μs
Fall Time	t_F				0.9	μs

* Pulse test: $PW \leq 300\mu s$, Duty cycles $\leq 2\%$ Pulse

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Rev. B

