



FUKUCOM COMPANY LTD.

福 靈 有 限 公 司

FLAT P, 3/F., EVEREST INDUSTRIAL CENTRE, 396 KWUN TONG ROAD,
KWUN TONG, KOWLOON, HONG KONG.
TEL: 2790-0314 FAX: 2790-0206

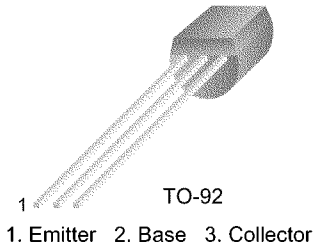
KSP44/45



KSP44/45

High Voltage Transistor

- Collector-Emitter Voltage: V_{CEO} =KSP44: 400V
KSP45: 350V
- Collector Power Dissipation: P_C (max)=625mW



NPN Epitaxial Silicon Transistor

Absolute Maximum Ratings $T_a=25^\circ\text{C}$ unless otherwise noted

Symbol	Parameter	Value	Units
V_{CBO}	Collector-Base Voltage	500	V
	: KSP44 : KSP45	400	V
V_{CEO}	Collector-Emitter Voltage	400	V
	: KSP44 : KSP45	350	V
V_{EBO}	Emitter-Base Voltage	6	V
I_C	Collector Current	300	mA
P_C	Collector Power Dissipation ($T_a=25^\circ\text{C}$)	625	mW
P_C	Collector Power Dissipation ($T_C=25^\circ\text{C}$)	1.5	W
T_J	Junction Temperature	150	$^\circ\text{C}$
T_{STG}	Storage Temperature	-55 ~ 150	$^\circ\text{C}$

Electrical Characteristics $T_a=25^\circ\text{C}$ unless otherwise noted

Symbol	Parameter	Test Condition	Min.	Max.	Units
BV_{CBO}	Collector-Base Breakdown Voltage	$I_C=100\mu\text{A}, I_B=0$	500		V
	: KSP44 : KSP45		400		V
BV_{CEO}	* Collector -Emitter Breakdown Voltage	$I_C=1\text{mA}, I_B=0$	400		V
	: KSP44 : KSP45		350		V
BV_{EBO}	Emitter-Base Breakdown Voltage	$I_E=100\mu\text{A}, I_C=0$	6		V
I_{CBO}	Collector Cut-off Current	$V_{CB}=400\text{V}, I_E=0$ $V_{CB}=320\text{V}, I_E=0$		0.1	μA
	: KSP44 : KSP45			0.1	μA
I_{CES}	Collector Cut-off Current	$V_{CE}=400\text{V}, I_B=0$ $V_{CE}=320\text{V}, I_B=0$		0.5	μA
	: KSP44 : KSP45			0.5	μA
I_{EBO}	Emitter Cut-off Current	$V_{EB}=4\text{V}, I_C=0$		0.1	μA
h_{FE}	* DC Current Gain	$V_{CE}=10\text{V}, I_C=1\text{mA}$	40		
		$V_{CE}=10\text{V}, I_C=10\text{mA}$	50	200	
		$V_{CE}=10\text{V}, I_C=50\text{mA}$	45		
		$V_{CE}=10\text{V}, I_C=100\text{mA}$	40		
$V_{CE}(\text{sat})$	* Collector-Emitter Saturation Voltage	$I_C=1\text{mA}, I_B=0.1\text{mA}$		0.4	V
		$I_C=10\text{mA}, I_B=1\text{mA}$		0.5	V
		$I_C=50\text{mA}, I_B=5\text{mA}$		0.75	V
$V_{BE}(\text{sat})$	* Base-Emitter Saturation Voltage	$I_C=10\text{mA}, I_B=1\text{mA}$		0.75	V
C_{ob}	Output Capacitance	$V_{CB}=20\text{V}, I_E=0, f=1\text{MHz}$		7	pF

* Pulse Test: $PW \leq 300\mu\text{s}$, Duty Cycles $\leq 2\%$



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Typical Characteristics

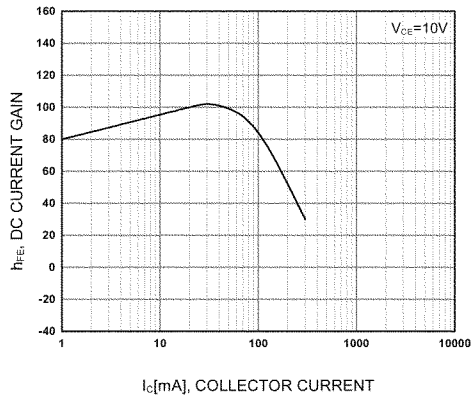


Figure 1. DC current Gain

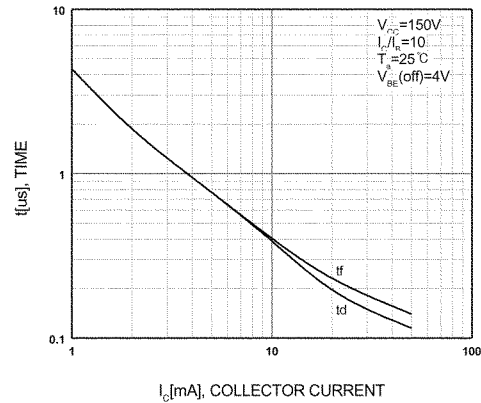


Figure 2. Turn-On Switching Times

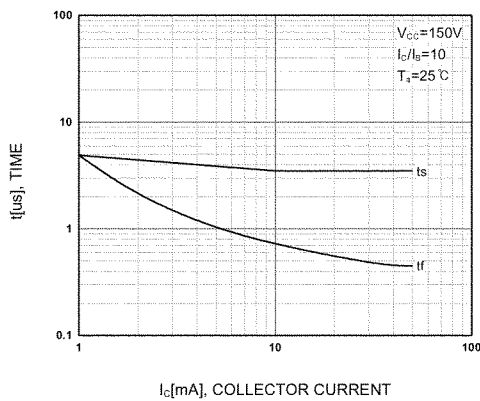


Figure 3. Turn-Off Switching Times

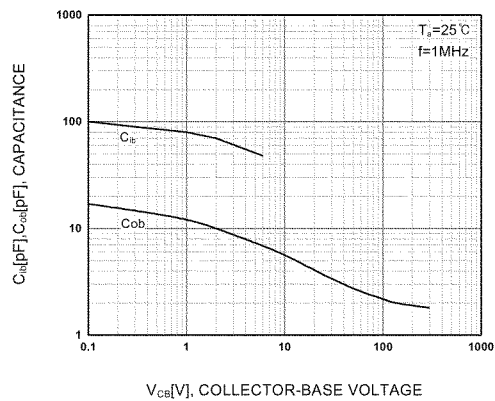


Figure 4. Capacitance

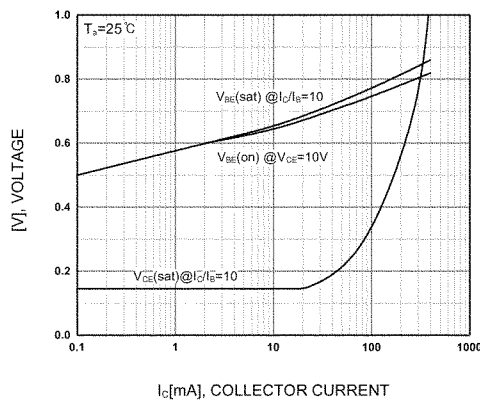


Figure 5. On Voltage

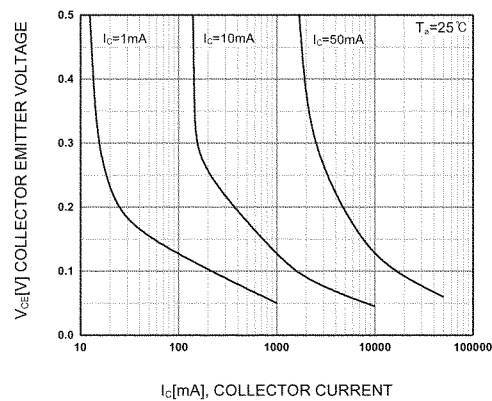


Figure 6. Collector Saturation Region



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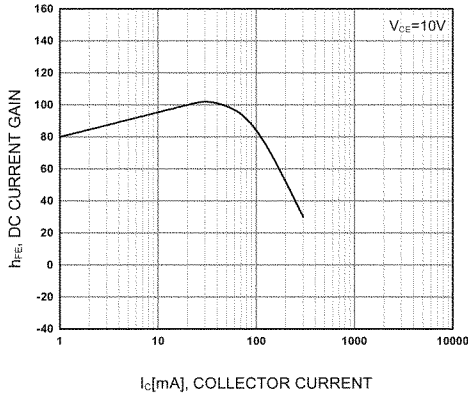


Figure 1. DC current Gain

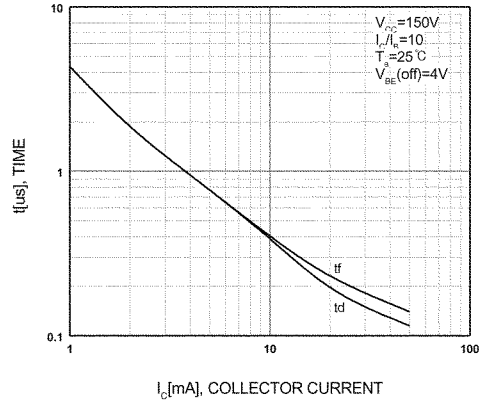


Figure 2. Turn-On Switching Times

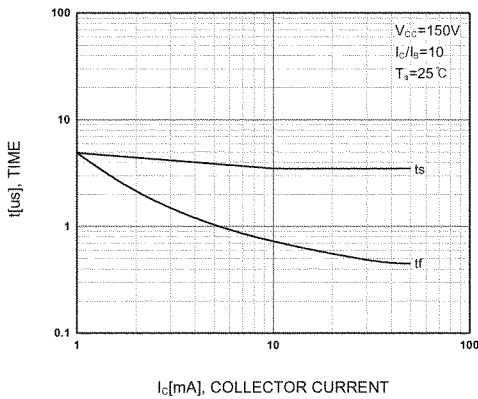


Figure 3. Turn-Off Switching Times

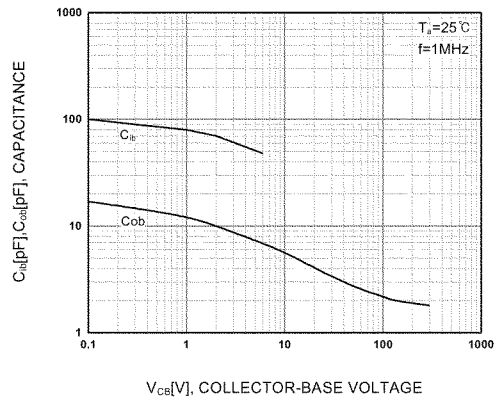


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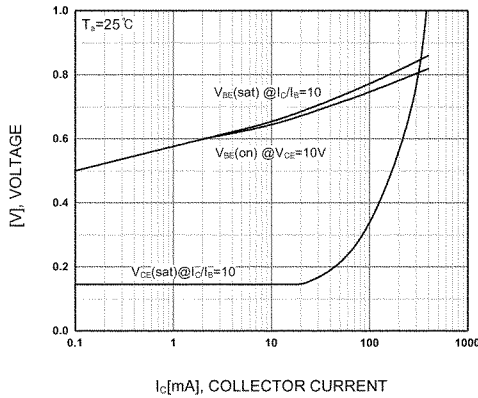


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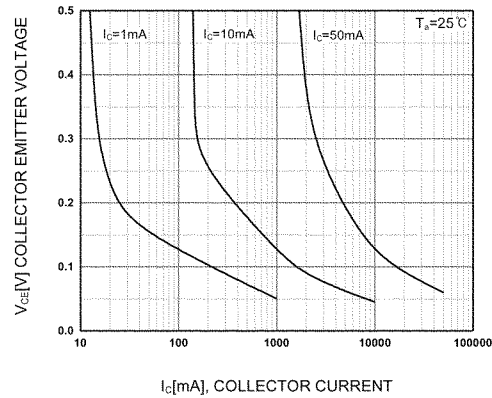


Figure 6. Collector Saturation Region



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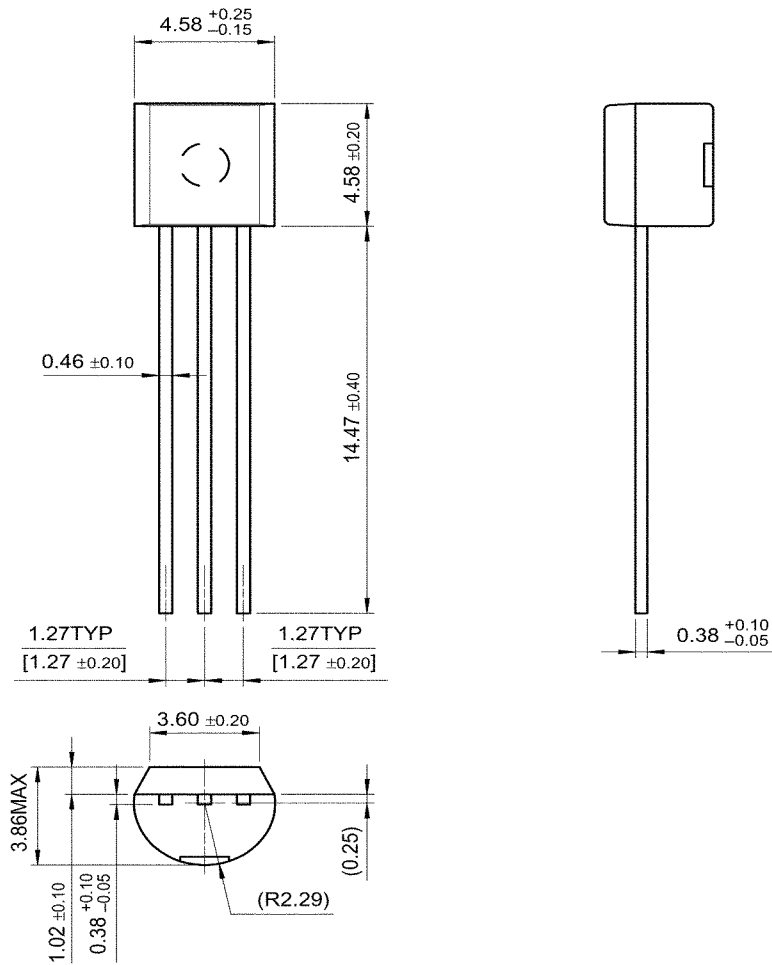
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Package Dimensions

TO-92



Dimensions in Millimeters