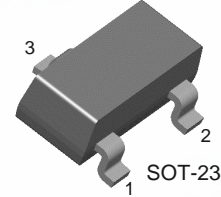


FAIRCHILD
SEMICONDUCTOR®

KST92/93

High Voltage Transistor



1. Base 2. Emitter 3. Collector

PNP Epitaxial Silicon Transistor

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

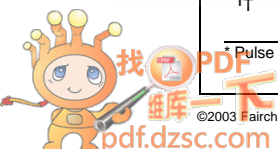
Symbol	Parameter	Value	Units
V_{CBO}	Collector Base Voltage	: KST92	-300 V
		: KST93	-200 V
V_{CEO}	Collector-Emitter Voltage	: KST92	-300 V
		: KST93	-200 V
V_{EBO}	Emitter-Base Voltage	-5	V
I_C	Collector Current	-500	mA
P_C	Collector Power Dissipation	350	mW
T_{STG}	Storage Temperature	150	$^\circ\text{C}$
$R_{TH(j-a)}$	Thermal Resistance junction to Ambient	357	$^\circ\text{C/W}$

* Refer to KSP92/93 for graphs

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

Symbol	Parameter	Test Condition	Min.	Max.	Units
BV_{CBO}	Collector-Base Breakdown Voltage	$I_C = -100\mu\text{A}, I_E = 0$	-300		V
			-200		V
BV_{CEO}	* Collector-Emitter Breakdown Voltage	$I_C = -1\text{mA}, I_B = 0$	-300		V
			-200		V
BV_{EBO}	Emitter-Base Breakdown Voltage	$I_E = -100\mu\text{A}, I_C = 0$	-5		V
I_{CBO}	Collector Cut-off Current	$V_{CB} = -200\text{V}, I_E = 0$ $V_{CB} = -160\text{V}, I_E = 0$		-0.25	μA
				-0.25	μA
I_{EBO}	Emitter Cut-off Current	$V_{EB} = -5\text{V}, I_C = 0$		-0.1	μA
h_{FE}	* DC Current Gain	$V_{CE} = -10\text{V}, I_C = -1\text{mA}$ $V_{CE} = -10\text{V}, I_C = -10\text{mA}$ $V_{CE} = -10\text{V}, I_C = -30\text{mA}$	25		
			40		
			25		
$V_{CE(sat)}$	* Collector-Emitter Saturation Voltage	$I_C = -20\text{mA}, I_B = -2\text{mA}$		-0.5	V
$V_{BE(sat)}$	* Base-Emitter Saturation Voltage	$I_C = -20\text{mA}, I_B = -2\text{mA}$		-0.9	V
C_{ob}	Output Capacitance	$V_{CB} = -20\text{V}, I_E = 0$ $f = 1\text{MHz}$		6	pF
				8	pF
f_T	Current Gain Bandwidth Product	$V_{CE} = -20\text{V}, I_C = -10\text{mA}$ $f = 100\text{MHz}$	50		MHz

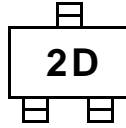
* Pulse Test: $PW \leq 300\mu\text{s}$, Duty Cycle $\leq 2\%$



Marking Code

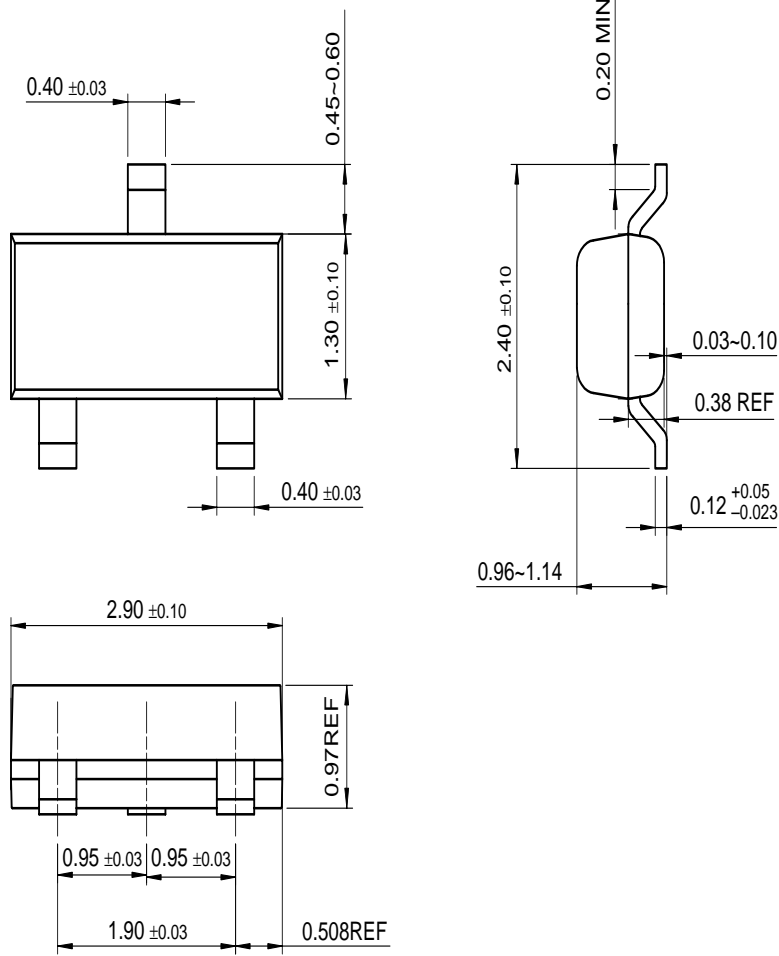
Type	KST92	KST93
Mark	2D	2E

Marking



Package Dimensions

SOT-23



Dimensions in Millimeters

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CoolFET™	FASTr™	MicroFET™	PowerTrench®	SuperSOT™-6
CROSSVOLT™	FRFET™	MicroPak™	QFET™	SuperSOT™-8
DOMET™	GlobalOptoisolator™	MICROWIRE™	QS™	SyncFET™
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E ² CMOS™	HiSeC™	MSXPro™	Quiet Series™	TruTranslation™
EnSigna™	I ² C™	OCX™	RapidConfigure™	UHC™
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Programmable Active Droop™		OPTOPLANAR™	SMART START™	

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