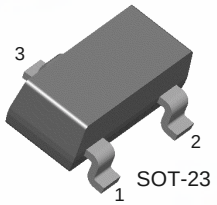
FAIRCHILD SEMICONDUCTOR®

KST05/06

Driver Transistor

- Collector-Emitter Voltage: V_{CEO} = KST05: 60V
  KST06: 80V
- Collector Power Dissipation: P_C (max) = 350mW
- Complement to KST55/56



SOT-23

1. Base 2. Emitter 3. Collector

NPN Epitaxial Silicon Transistor

Absolute Maximum Ratings T_a=25°C unless otherwise noted

Symbol	Parameter	Value	Units
V_{CBO}	Collecto-Base Voltage : KST05 : KST06	 60 80	 V V
V_{CEO}	Collector-Emitter Voltage : KST05 : KST06	 60 80	 V V
V_{EBO}	Emitter-Base Voltage	4	V
I_C	Collector Current	500	mA
P_C	Collector Power Dissipation	350	mW
T_{STG}	Storage Temperature	150	°C
R_{TH}(j-a)	Thermal Resistance junction to Ambient	357	°C/W

Electrical Characteristics T_a=25°C unless otherwise noted

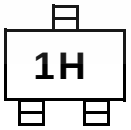
Symbol	Parameter	Test Condition	Min.	Max.	Units
BV_{CEO}	* Collector-Emitter Breakdown Voltage : KST05 : KST06	 I_C=1mA, I_B=0	 60 80		 V V
BV_{EBO}	Emitter-Base Breakdown Voltage	I_E=100μA, I_C=0	4		V
I_{CBO}	Collector Cut-off Current : KST05 : KST06	V_{CB}=60V, I_E=0 V_{CB}=80V, I_E=0		 0.1 0.1	 μA μA
I_{CEO}	Collector Cut-off Current	V_{CE}=60V, I_B=0		0.1	μA
h_{FE}	DC Current Gain	V_{CE}=1V, I_C=10mA V_{CE}=1V, I_C=100mA	50 50		
V_{CE} (sat)	Collector-Emitter Saturation Voltage	I_C=100mA, I_B=10mA		0.25	V
V_{BE} (on)	Base-Emitter On Voltage	V_{CE}=1V, I_C=100mA		1.2	V
f_T	Current Gain Bandwidth Product	V_{CE}=2V, I_C=100mA, f=100MHz	100		MHz

* Pulse Test: PW≤300μs, Duty Cycle≤2%

Marking Code

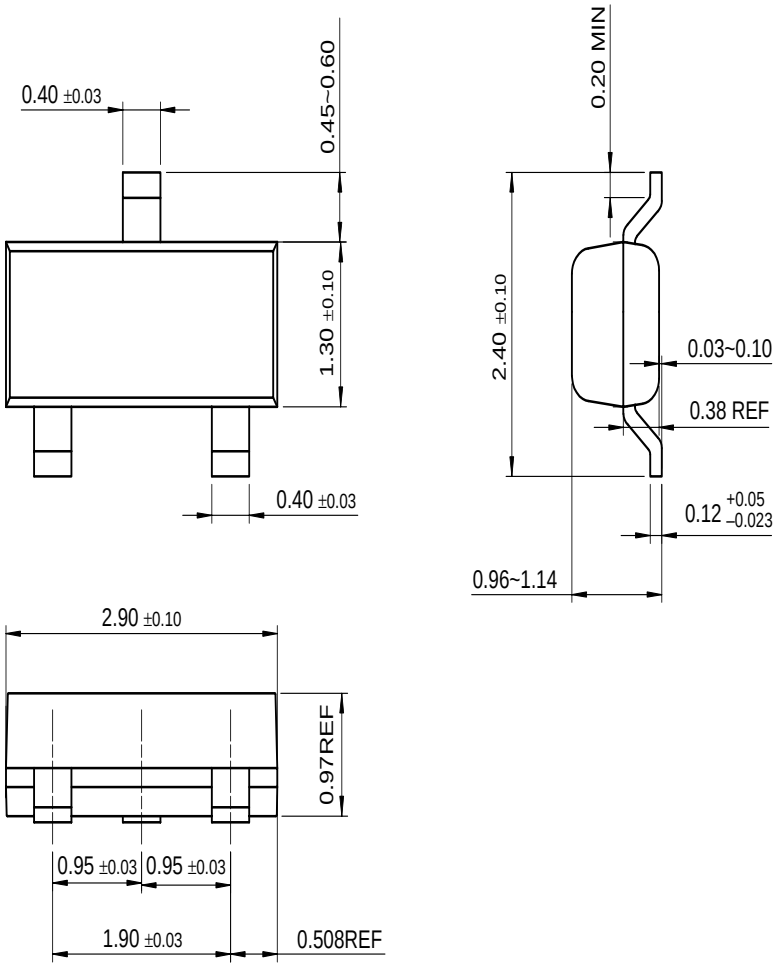
Type	KST05	KST06
Mark	1H	1G

Marking



Package Dimensions

SOT-23



Dimensions in Millimeters

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CoolFET™	FASTr™	MicroFET™	PowerTrench®	SuperSOT™-6
CROSSVOLT™	FRFET™	MicroPak™	QFET™	SuperSOT™-8
DOME™	GlobalOptoisolator™	MICROWIRE™	QS™	SyncFET™
EcoSPARK™	GTO™	MSX™	QT Optoelectronics™	TinyLogic™
E^2CMOS™	HiSeC™	MSXPro™	Quiet Series™	TruTranslation™
EnSigna™	I^2C™	OCX™	RapidConfigure™	UHC™
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The Power Franchise™		OPTOLOGIC®	SILENT SWITCHER®	VCX™
Programmable Active Droop™		OPTOPLANAR™	SMART START™	

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Definition of Terms

Datasheet Identification	Product Status	Definition
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