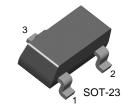


KST42/43

High Voltage Transistor



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}	Collector Base Voltage		
	: KST42	300	V
	: KST43	200	V
V _{CEO}	Collector-Emitter Voltage		
	: KST42	300	V
	: KST43	200	V
V _{EBO}	Emitter-Base Voltage	6	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 _{CBO}	Collector-Emitter Breakdown Voltage : KST42 : KST43	I _C =100μA, I _E =0	300 200		V
BV _{CEO}	* Collector -Emitter Breakdown Voltage : KST42 : KST43	I _C =1mA, I _B =0	300 200		V
BV _{EBO}	Emitter-Base Breakdown Voltage	I _E =100μA, I _C =0	6		V
I _{CBO}	Collector Cut-off Current	V _{CB} =200V, I _E =0		0.1	μΑ
I _{EBO}	Emitter Cut-off Current	$V_{CB}=5V$, $I_{C}=0$		0.1	μΑ
h _{FE}	* DC Current Gain	V _{CE} =10V, I _C =1mA V _{CE} =10V, I _C =10mA V _{CE} =10V, I _C =30mA	25 40 40		
V _{CE} (sat)	* Collector-Emitter Saturation Voltage	I _C =20mA, I _B =2mA		0.5	V
V _{BE} (sat)	* Base-Emitter Saturation Voltage	I _C =20mA, I _B =2mA		0.9	V
C _{ob}	Output Capacitance : KST42 : KST43	V _{CB} =20V, I _E =0 f=1MHz		3 4	pF pF
f _T	Current Gain Bandwidth Product	V _{CE} =20V, I _C =10mA f=100MHz	50		MHz

^{*} Pulse Test: PW≤300μs, Duty Cycle≤2%

Marking Code

Туре	KST42	KST43	
Mark	1D	1E	



Typical Characteristics

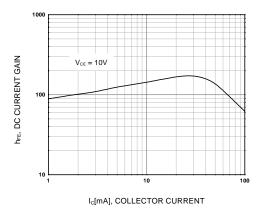


Figure 1. DC current Gain

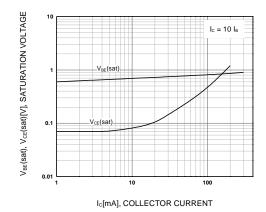


Figure 2. Collector-Emitter Saturation Voltage Base-Emitter Saturation Voltage

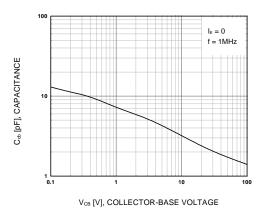


Figure 3. Collector-Base Capacitance

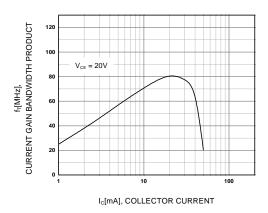
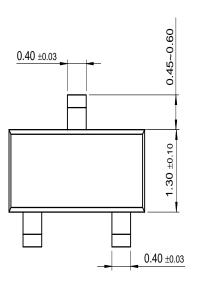
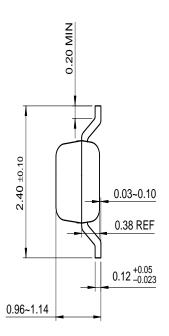


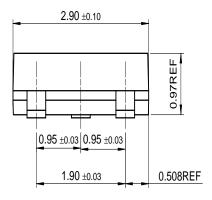
Figure 4. Current Gain Bandwidth Product

Package Dimensions

SOT-23







Dimensions in Millimeters

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CoolFET™	FASTr™	MicroFET™	PowerTrench [®]	SuperSOT™-6
$CROSSVOLT^{TM}$	FRFET™	MicroPak™	QFET™	SuperSOT™-8
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EcoSPARK™	GTO™	MSX™	QT Optoelectronics™	TinyLogic™
E ² CMOS™	HiSeC™	MSXPro™	Quiet Series™	TruTranslation™
EnSigna™	I^2C^{TM}	OCX^{TM}	RapidConfigure™	UHC™
Across the board.	Around the world.™	OCXPro™	RapidConnect™	UltraFET [®]
The Power Franchise™		OPTOLOGIC [®]	SILENT SWITCHER®	VCX TM
Programmable Ad	ctive Droop™	OPTOPLANAR™	SMART START™	

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