

KSP42/43

NPN EPITAXIAL SILICON TRANSISTOR

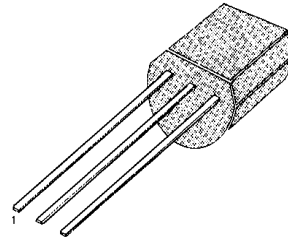
HIGH VOLTAGE TRANSISTOR

- Collector-Emitter Voltage: V_{CE0} =KSP42: 300V
KSP43: 200V
- Collector Dissipation: $P_C(\text{max})$ =625mW

ABSOLUTE MAXIMUM RATINGS ($T_A=25^\circ\text{C}$)

Characteristic	Symbol	Rating	Unit
Collector Base Voltage	V_{CBO}	300	V
	KST42	200	V
Collector-Emitter Voltage	V_{CEO}	300	V
	KST42	200	V
	KST43	200	V
Emitter-Base Voltage	V_{EBO}	6	V
Collector Current	I_C	500	mA
Collector Dissipation	P_C	625	mW
Junction Temperature	T_J	150	$^\circ\text{C}$
Storage Temperature	T_{STG}	357	$^\circ\text{C}$

TO-92



1. Emitter 2. Base 3. Collector

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

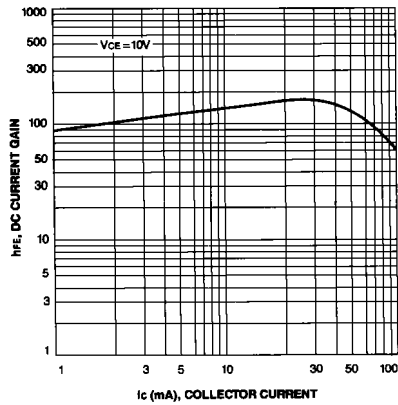
Characteristic	Symbol	Test Conditions	Min	Max	Unit
Collector-Base Breakdown Voltage	BV_{CBO}	$I_C=100\mu\text{A}$, $I_E=0$	300		V
	:KST42		200		V
* Collector -Emitter Breakdown Voltage	BV_{CEO}	$I_C=1\text{mA}$, $I_B=0$	300		V
	:KST42		200		V
	:KST43		6		V
Emitter-Base Breakdown Voltage	BV_{EBO}	$I_E=100\mu\text{A}$, $I_C=0$			V
Collector Cut-off Current	I_{CBO}	$V_{CB}=200\text{V}$, $I_E=0$		100	nA
	:KST42	$V_{CB}=160\text{V}$, $I_E=0$		100	nA
	:KST43				
Emitter Cut-off Current	I_{EBO}	$V_{BE}=6\text{V}$, $I_C=0$		100	nA
	:KST42	$V_{BE}=4\text{V}$, $I_C=0$		100	nA
	:KST43				
* DC Current Gain	h_{FE}	$V_{CE}=10\text{V}$, $I_C=1\text{mA}$	25		
		$V_{CE}=10\text{V}$, $I_C=10\text{mA}$	40		
		$V_{CE}=10\text{V}$, $I_C=30\text{mA}$	40		
* Collector-Emitter Saturation Voltage	$V_{CE}(\text{sat})$	$I_C=20\text{mA}$, $I_B=2\text{mA}$		0.5	V
* Base-Emitter Saturation Voltage	$V_{BE}(\text{sat})$	$I_C=20\text{mA}$, $I_B=2\text{mA}$		0.9	V
Collector-Base Capacitance	C_{CB}	$V_{CB}=20\text{V}$, $I_E=0$		3	pF
	:KST42	$f=1\text{MHz}$		4	pF
	:KST43				
Current Gain Bandwidth Product	f_T	$V_{CE}=20\text{V}$, $I_C=10\text{mA}$	50		MHz
		$f=100\text{MHz}$			

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

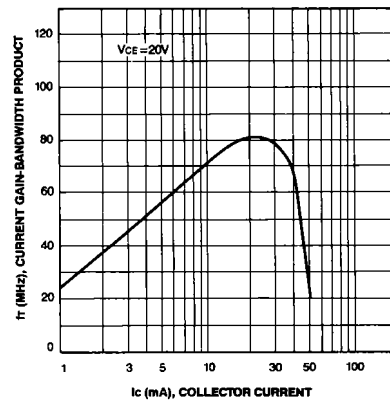
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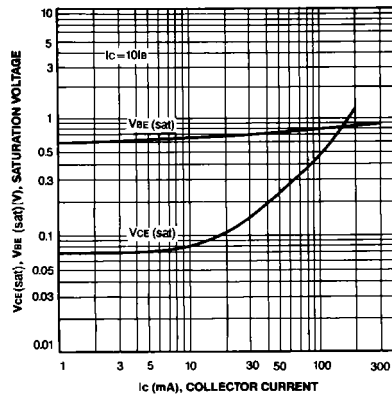
DC CURRENT GAIN



CURRENT GAIN-BANDWIDTH PRODUCT



COLLECTOR-EMITTER SATURATION VOLTAGE
BASE-EMITTER SATURATION VOLTAGE



COLLECTOR-BASE CAPACITANCE

