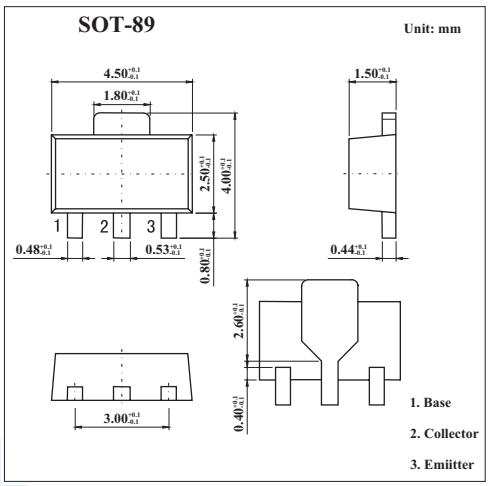
NPN Darlington Transistors

KST50; KST51; KST52

(BST50; BST51; BST52)



■ Features

- High current (max. 0.5 A)
- Low voltage (max. 80 V)
- Integrated diode and resistor.

■ Absolute Maximum Ratings Ta = 25℃

Parameter		Symbol	Rating	Unit
Collector-base voltage	KST50	V_{CBO}	60	V
	KST51		80	V
	KST52		90	V
Collector-emitter voltage	KST50	V_{CEO}	45	V
	KST51		60	V
	KST52		80	V
Emitter-base voltage		V_{EBO}	5	V
Collector current (DC)		I_C	0.5	A
Peak collector current		I_{CM}	1.5	A
base current		I_B	100	mA
Power dissipation T_{amb} ≤25 ℃ *		P_D	1.3	W
Thermal resistance from junction to ambient *		$R_{th(j-a)}$	96	K/W
Thermal resistance from junction to solder point		$R_{th(j-s)}$	16	K/W
Junction temperature		T_j	150	℃
Storage temperature		T_{stg}	-65 to +150	℃

* Device mounted on a printed-circuit board, single sided copper, tinplated, mounting pad for collector 6 cm^2.

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■ Electrical Characteristics Ta = 25℃

Parameter		Symbol	Testconditons	Min	Typ	Max	Unit
Collector cutoff current	KST50	I_{CES}	V_{BE}=0;V_{CE}=45V			50	nA
	KST51		V_{BE}=0;V_{CE}=60V			50	nA
	KST52		V_{BE}=0;V_{CE}=80V			50	nA
Emitter cutoff current		I_{EBO}	V_{EB} = 4V, I_C = 0			50	nA
DC current gain		h_{FE}	I_C = 150mA; V_{CE} = 10 V	1000			
			I_C =500 mA; V_{CE} = 10V	2000			
Collector-emitter saturation voltage		$V_{CE(sat)}$	I_C = 500 mA; I_B = 0.5 mA			1.3	V
			I_C = 500 mA; I_B = 0.5mA;T_J=150℃			1.3	V
Base to emitte rsaturation voltage		$V_{BE(sat)}$	I_C = 500 mA; I_B=0.5mA			1.9	V
turn-on time		t_{on}	I_{Con} = 500 mA; I_{Bon} = 0.5 mA;		400		ns
turn-off time		t_{off}	I_{Boff} = -0.5 mA		1500		ns
Transition frequency		f_T	I_C = 500 mA; V_{CE} = 5 V; f = 100 MHz		200		MHz

■ Marking

NO.	KST50	KST51	KST52
Marking	AS1	AS2	AS3