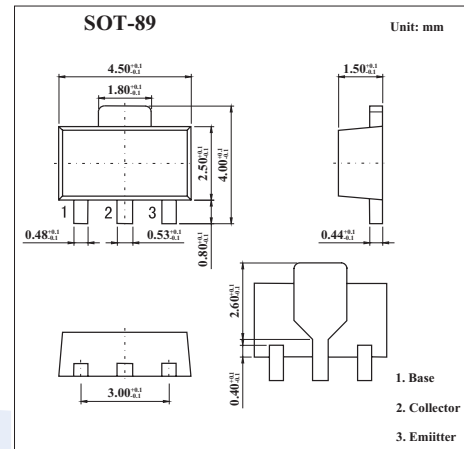


NPN Darlington Transistors

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 $T_a = 25^\circ\text{C}$

Parameter	Symbol	Rating	Unit
Collector-base voltage	KST50	60	V
	KST51	80	V
	KST52	90	V
Collector-emitter voltage	KST50	45	V
	KST51	60	V
	KST52	80	V
Emitter-base voltage	VEBO	5	V
Collector current (DC)	Ic	0.5	A
Peak collector current	ICM	1.5	A
base current	Ib	100	mA
Power dissipation $T_{amb} \leq 25^\circ\text{C}$ *	PD	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	°C
Storage temperature	T _{stg}	-65 to +150	°C

* Device mounted on a printed-circuit board, single sided copper, tinplated, mounting pad for collector 6 cm².

KST50; KST51; KST52 (BST50; BST51; BST52)

■ Electrical Characteristics Ta = 25°C

Parameter	Symbol	Testconditions	Min	Typ	Max	Unit
Collector cutoff current	KST50	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°C			1.3	V
Base to emitter saturation 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