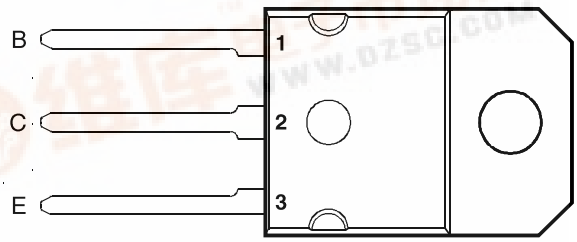
TRANSYS ELECTRONICS LIMITED

BU426, BU426A
NPN SILICON POWER TRANSISTORS

- **Rugged Triple-Diffused Planar Construction**
- **900 Volt Blocking Capability**

SOT-93 PACKAGE
(TOP VIEW)



Pin 2 is in electrical contact with the mounting base.

absolute maximum ratings **at 25°C case temperature (unless otherwise noted)**

RATING		SYMBOL	VALUE	UNIT
Collector-base voltage (I_E = 0)	BU426 BU426A	V_{CBO}	800 900	V
Collector-emitter voltage (V_{BE} = 0)	BU426 BU426A	V_{CES}	800 900	V
Collector-emitter voltage (I_B = 0)	BU426 BU426A	V_{CEO}	375 400	V
Continuous collector current		I_C	6	A
Peak collector current (see Note 1)		I_{CM}	10	A
Continuous base current		I_B	+2, -0.1	A
Peak base current (see Note 1)		I_{BM}	±3	A
Continuous device dissipation at (or below) 50°C case temperature		P_{tot}	70	W
Operating junction temperature range		T_j	-65 to +150	°C
Storage temperature range		T_{stg}	-65 to +150	°C

NOTE 1: This value applies for $t_p \leq 2$ ms, duty cycle ≤ 2%.

electrical characteristics at 25°C case temperature (unless otherwise noted)

PARAMETER		TEST CONDITIONS				MIN	TYP	MAX	UNIT
$V_{CEO(sus)}$	Collector-emitter sustaining voltage	I_C = 100 mA	L = 25 mH	(see Note 2)	BU426 BU426A	375 400			V
I_{CES}	Collector-emitter cut-off current	V_{CE} = 800 V V_{CE} = 900 V V_{CE} = 800 V V_{CE} = 900 V	V_{BE} = 0 V_{BE} = 0 V_{BE} = 0 V_{BE} = 0	 T_C = 125°C T_C = 125°C	BU426 BU426A BU426 BU426A			1 1 2 2	mA
I_{EBO}	Emitter cut-off current	V_{EB} = 10 V	I_C = 0					10	mA
h_{FE}	Forward current transfer ratio	V_{CE} = 5 V	I_C = 0.6 A	(see Notes 3 and 4)			30	60	
$V_{CE(sat)}$	Collector-emitter saturation voltage	I_B = 0.5 A I_B = 1.25 A	I_C = 2.5 A I_C = 4 A	(see Notes 3 and 4)				1.5 3	V
$V_{BE(sat)}$	Base-emitter saturation voltage	I_B = 0.5 A I_B = 1.25 A	I_C = 2.5 A I_C = 4 A	(see Notes 3 and 4)				1.4 1.6	V

NOTES: 2. Inductive loop switching measurement.
3. These parameters must be measured using pulse techniques, t_p = 300 µs, duty cycle ≤ 2%.
4. These parameters must be measured using voltage-sensing contacts, separate from the current carrying contacts.

thermal characteristics

PARAMETER		MIN	TYP	MAX	UNIT
$R_{\theta JC}$	Junction to case thermal resistance			1.1	°C/W

resistive-load-switching characteristics at 25°C case temperature (unless otherwise noted)

PARAMETER		TEST CONDITIONS †			MIN	TYP	MAX	UNIT
t_{on}	Turn on time	I_C = 2.5 A V_{CC} = 250 V	$I_{B(on)}$ = 0.5 A (see Figures 1 and 2)	$I_{B(off)}$ = -1 A		0.3	0.6	µs
t_s	Storage time					2	3.5	µs
t_f	Fall time					0.15		µs
t_f	Fall time	I_C = 2.5 A V_{CC} = 250 V	$I_{B(on)}$ = 0.5 A T_C = 95°C	$I_{B(off)}$ = -1 A		0.2	0.75	µs

† Voltage and current values shown are nominal; exact values vary slightly with transistor parameters.

PARAMETER MEASUREMENT INFORMATION

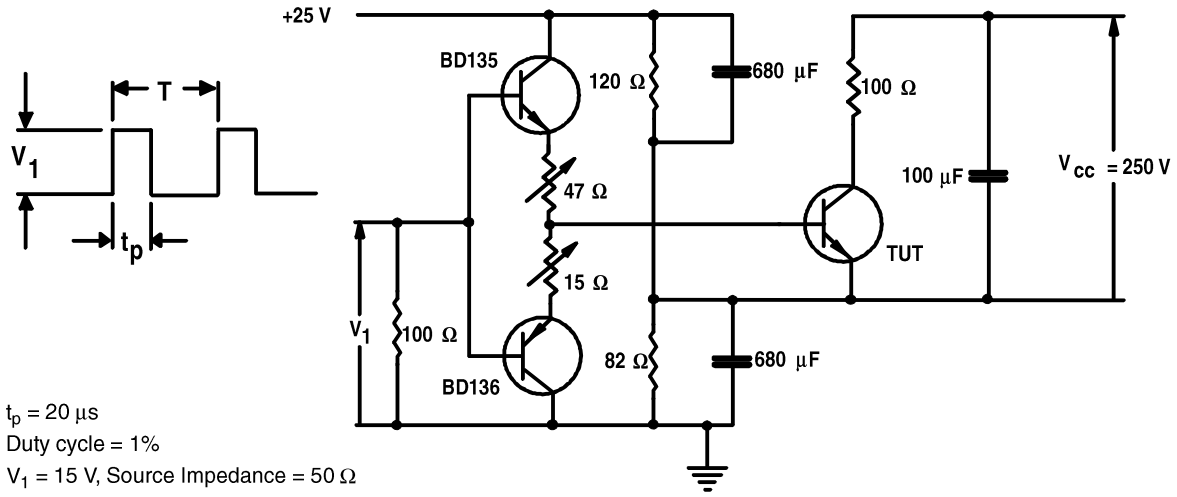


Figure 1. Resistive-Load Switching Test Circui t

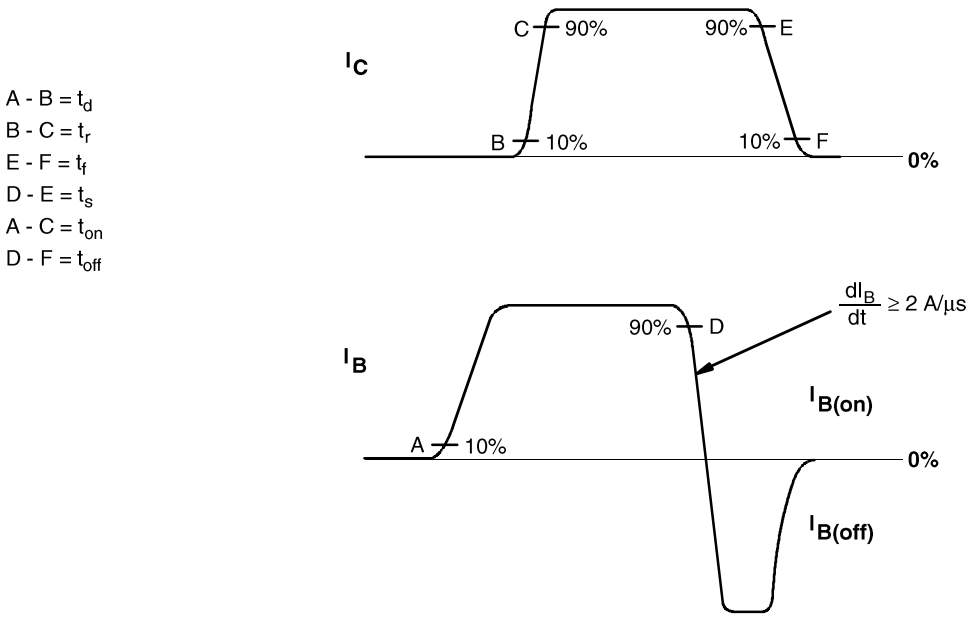


Figure 2. Resistive-Load Switching Waveform s

TYPICAL CHARACTERISTICS

TYPICAL DC CURRENT GAIN
vs
COLLECTOR CURRENT

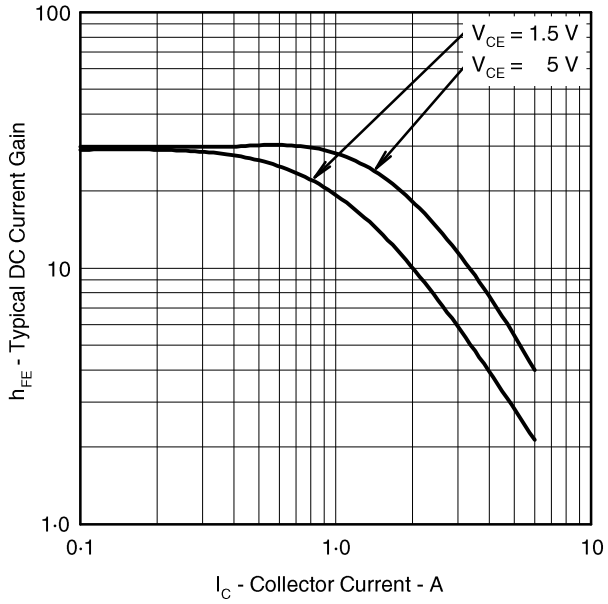


Figure 3.

COLLECTOR-EMITTER SATURATION VOLTAGE
vs
BASE CURRENT

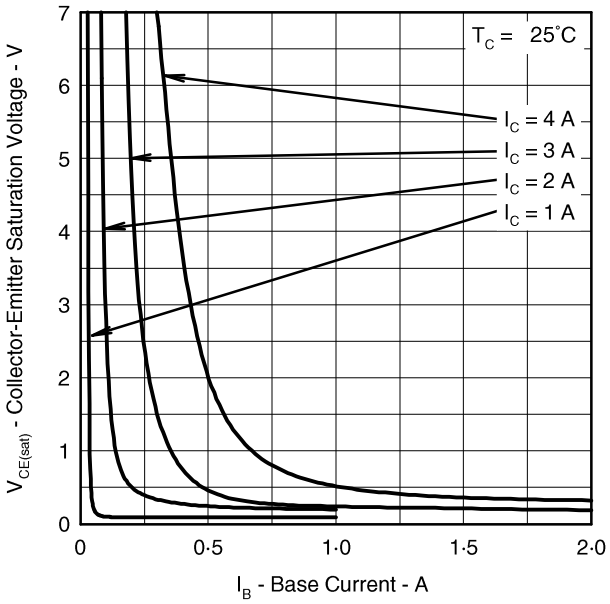


Figure 4.

COLLECTOR-EMITTER SATURATION VOLTAGE
vs
BASE CURRENT

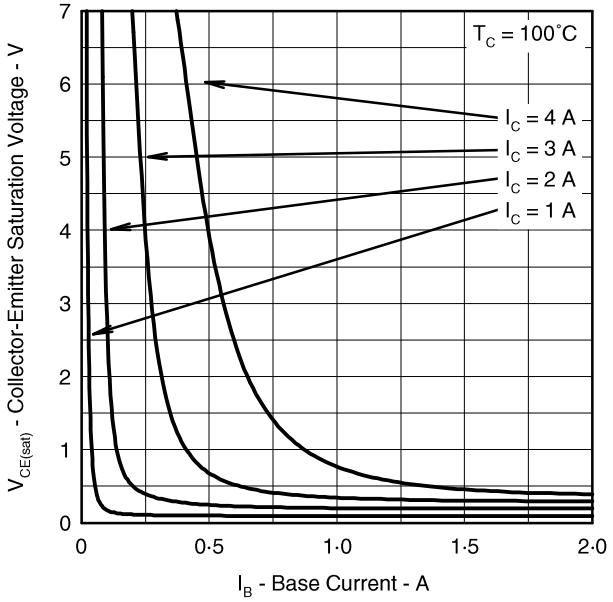


Figure 5.

BASE-EMITTER SATURATION VOLTAGE
vs
BASE CURRENT

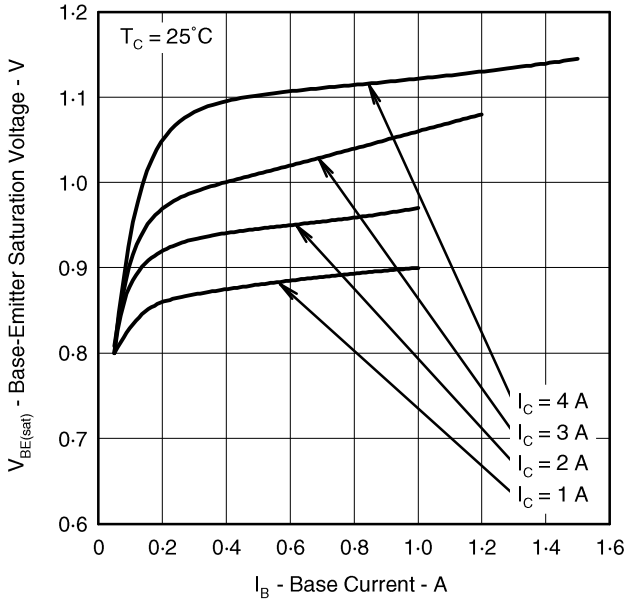


Figure 6.

MAXIMUM SAFE OPERATING REGIONS

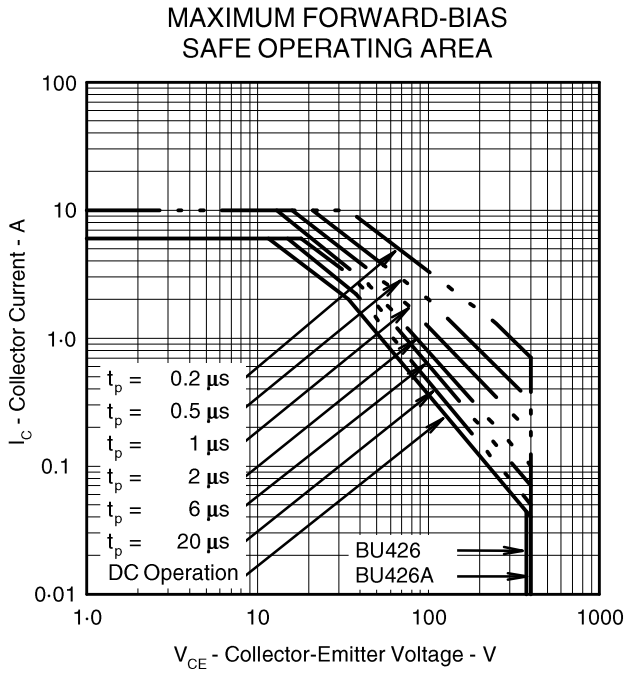
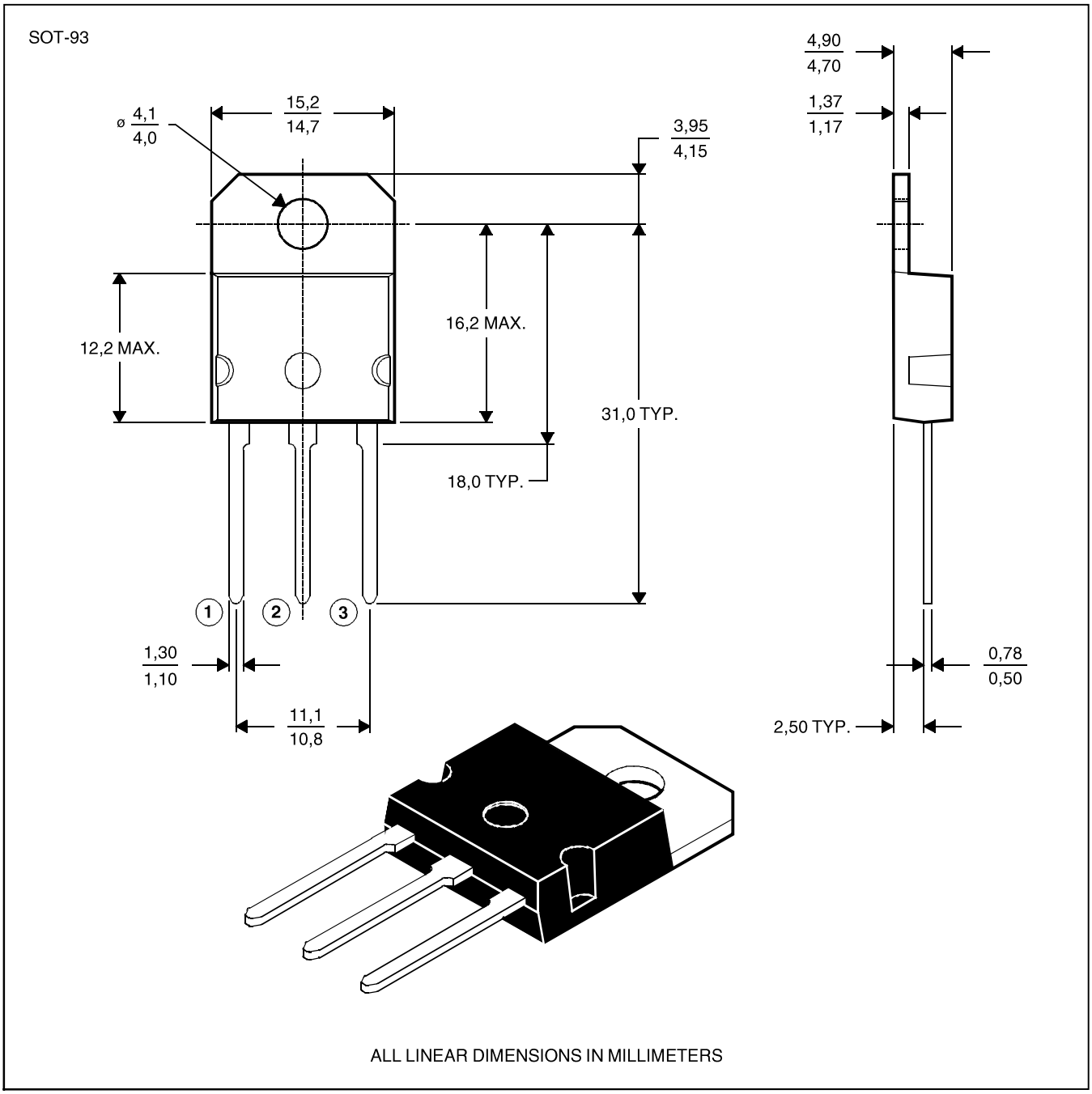


Figure 7.

MECHANICAL DATA

SOT-93
3-pin plastic flange-mount package

This single-in-line package consists of a circuit mounted on a lead frame and encapsulated within a plastic compound. The compound will withstand soldering temperature with no deformation, and circuit performance characteristics will remain stable when operated in high humidity conditions. Leads require no additional cleaning or processing when used in soldered assembly.



NOTE A: The centre pin is in electrical contact with the mounting tab.