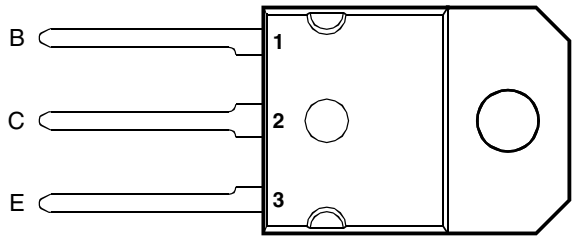
BOURNS®

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

SOT-93 PACKAGE
(TOP VIEW)



Pin 2 is in electrical contact with the mounting base.

MDTRAAA

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

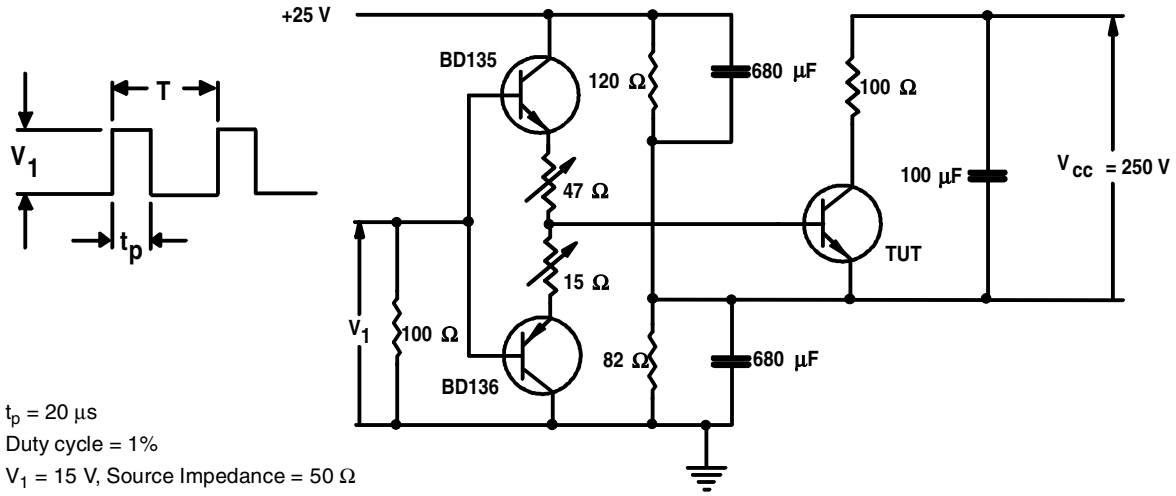
PARAMETER		MIN	TYP	MAX	UNIT
$R_{\theta JC}$	Junction to case thermal resistance			1.1	°C/W

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



t_p = 20 µs
Duty cycle = 1%
V_1 = 15 V, Source Impedance = 50 Ω

Figure 1. Resistive-Load Switching Test Circuit

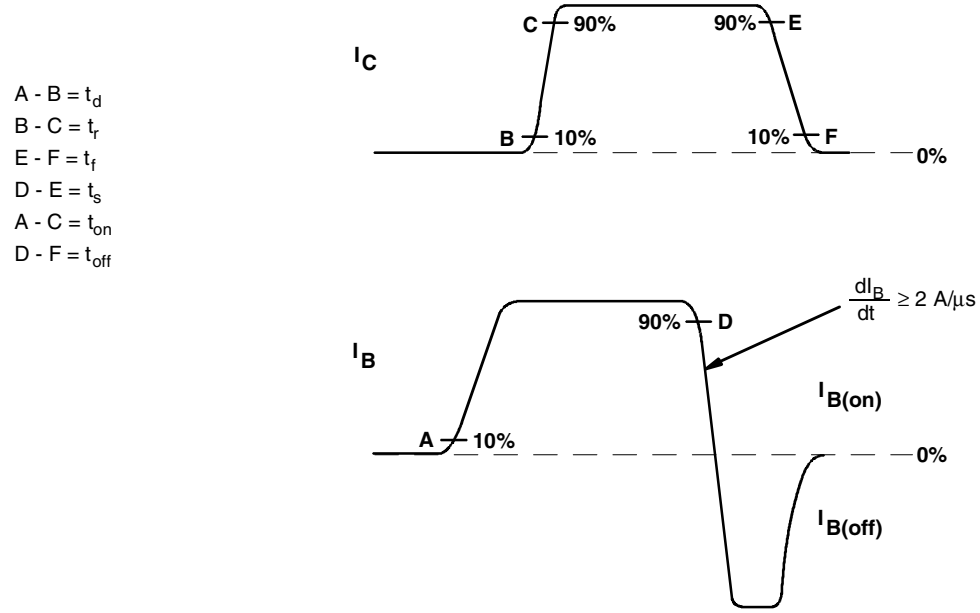


Figure 2. Resistive-Load Switching Waveforms

TYPICAL CHARACTERISTICS

TYPICAL DC CURRENT GAIN vs COLLECTOR CURRENT

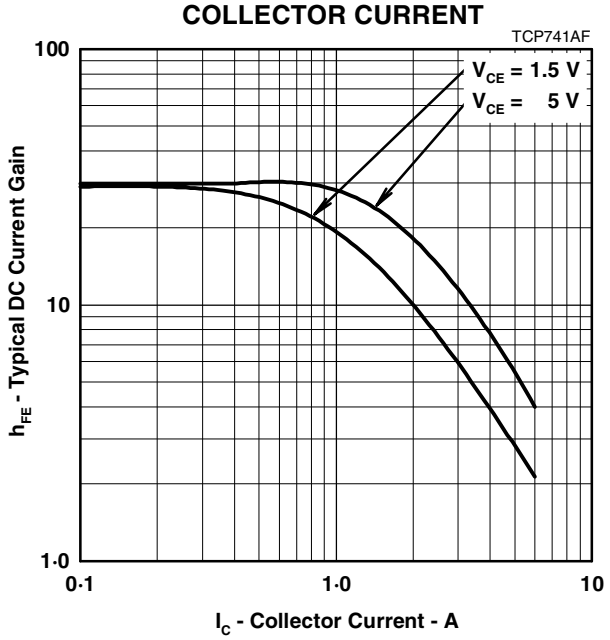


Figure 3.

COLLECTOR-EMITTER SATURATION VOLTAGE vs BASE CURRENT

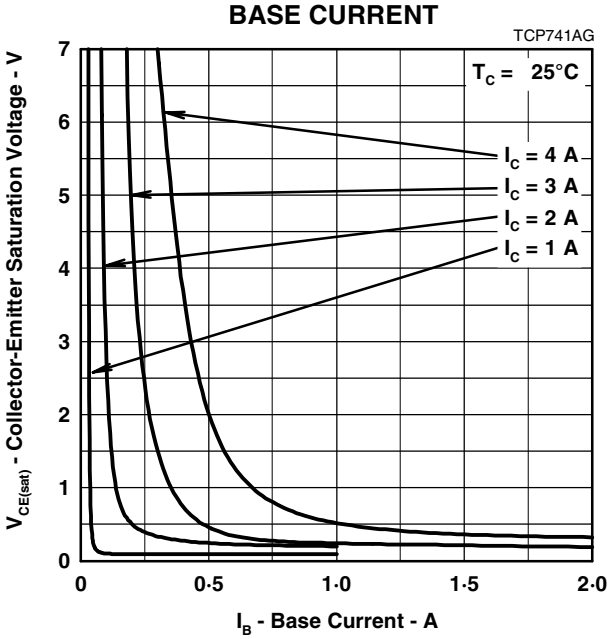


Figure 4.

COLLECTOR-EMITTER SATURATION VOLTAGE vs BASE CURRENT

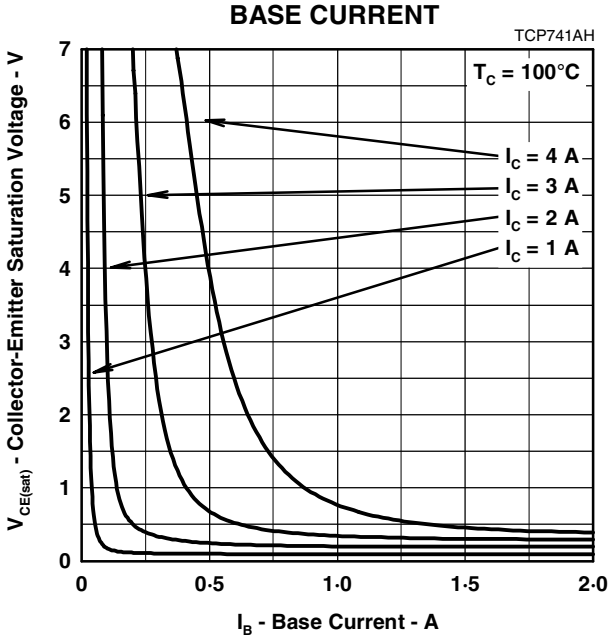


Figure 5.

BASE-EMITTER SATURATION VOLTAGE vs BASE CURRENT

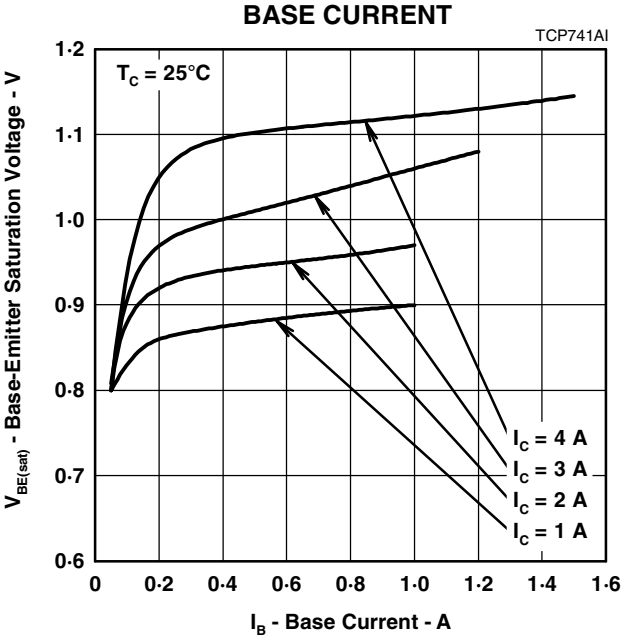


Figure 6.

MAXIMUM SAFE OPERATING REGIONS

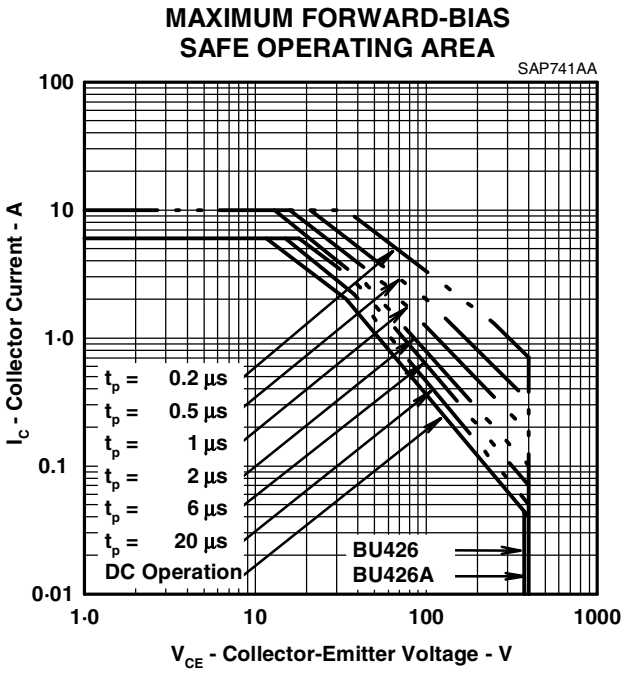


Figure 7.