

[查询"BU323"供应商](#)

3875081 G E SOLID STATE

01E 17301 D T-33-29
Darlington Power Transistors

File Number 1312

BU323, BU323A

10-Ampere N-P-N Monolithic Darlington Power Transistors

350, 400 Volts, 175 Watts
Gain of 150 at 6 A

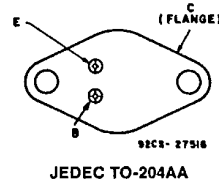
Features:

- Operates from IC without predriver
- High voltage breakdown
- High reverse second-breakdown capability

Applications:

- Power switching
- Solenoid drivers
- Automotive Ignition
- Series and shunt regulators

TERMINAL DESIGNATIONS



The BU323 and BU323A are monolithic n-p-n silicon Darlington transistors designed for automotive electronic power applications..

These devices provide good forward and reverse second-breakdown capability; their high gain makes it possible for them to be driven directly from integrated circuits.

The BU323 and BU323A are supplied in the JEDEC TO-204AA hermetic steel package.

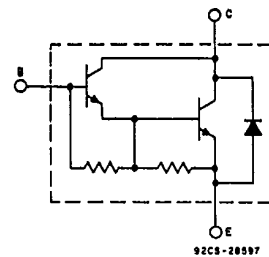


Fig. 1-Schematic diagram for both types.

MAXIMUM RATINGS, Absolute-Maximum Values:

	BU323	BU323A	
V _{CBO}	500	600	V
V _{CER(sus)} R _{BE} =100 Ω	400	475	V
V _{CEO(sus)}	350	400	V
V _{EBO}	8	8	V
I _C	10	10	A
I _{CM}	16	16	A
I _B	3	3	A
P _T T _C ≤ 25°C	175	175	W
T _C > 25°C	See Fig. 2		
T _{stg} , T _J	-65 to +200		°C
T _L At distances ≥ 1/8 in. (3.17 mm) from case for 10 s max.	235		°C

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01E 17302 D T-33-29

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ELECTRICAL CHARACTERISTICS, At Case Temperature (T_C) 25°C unless otherwise specified

CHARACTERISTIC	TEST CONDITIONS				LIMITS				UNITS
	VOLTAGE V dc		CURRENT A dc		BU323		BU323A		
	V_{CE}	V_{BE}	I_C	I_B	Min.	Max.	Min.	Max.	
I_{CER} $R_{BE}=100\ \Omega$	400				—	1	—	—	mA
	475				—	—	1		
I_{EBO}		-6	0		—	40	—	40	
I_{CBO}	500 ^b 600 ^b				—	1	—	—	V
$V_{CE(sus)}$ $R_{BE}=100\ \Omega$ $L=500\ \mu H$			4		400	—	475	—	
$V_{CEO(sus)}$			0.2 ^a	0	350	—	400	—	V
h_{FE}	6		3 ^a		300	—	300	—	
	6		6 ^a		150	2000	150	2000	
	6		10 ^a		50	—	50	—	V
$V_{CE(sat)}$			3 ^a	0.06 ^a	—	1.5	—	1.5	
			6 ^a	0.12 ^a	—	1.7	—	1.7	
			10 ^a	0.30 ^a	—	2.7	—	2.7	
			6 ^a	0.12 ^a	—	2.0	—	2.0	V
$V_{BE(sat)}$			6 ^a	0.12	—	2.2	—	2.2	
			10 ^a	0.30	—	3	—	3	
			6 ^a	0.12	—	2.4	—	2.4	V
$V_{BE(On)}$	6		10 ^a		—	2.5	—	2.5	
V_F			10 ^a		—	3.5	—	3.5	pF
C_{ob} $f=100\ \text{kHz}$	10 ^b				—	350	—	350	
$I_C^2L/2$ (See Fig. 9)					550	—	550	—	mJ
t_s $I_{B1}=I_{B2}$	12 ^c		6	0.3	—	15	—	15	μs
t_f $I_{B1}=I_{B2}$	12 ^c		6	0.3	—	15	—	15	
$ h_{fe} $ $f=1\ \text{MHz}$	5		1		10	—	10	—	A
$I_{S/b}$ $t=1\ \text{s, nonrep.}$	50				3.5	—	3.5	—	
$R_{\theta JC}$					—	1	—	1	$^{\circ}C/W$

^aPulsed; Pulse duration=300 μs , duty factor=1.8%.^b V_{CB} value.^c V_{CC} value.

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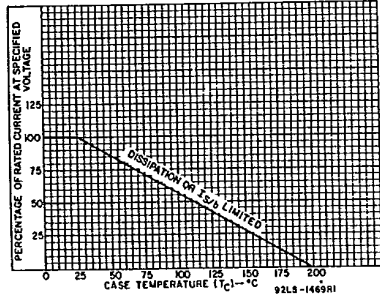


Fig. 2 — Dissipation derating curve for both types.

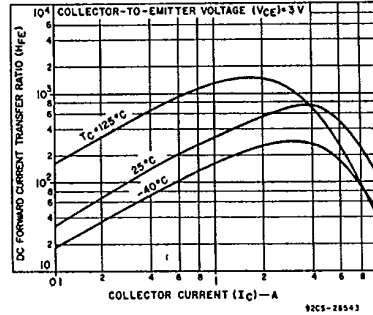


Fig. 3 — Typical DC beta characteristics for both types.

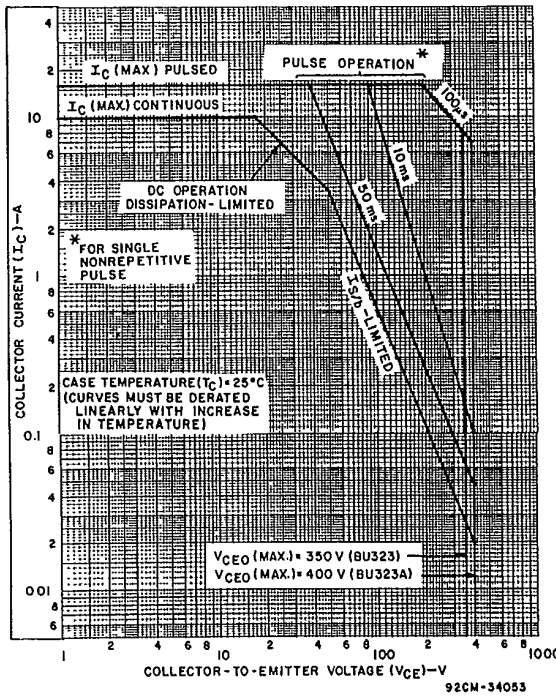


Fig. 4 — Maximum operating areas for both types.

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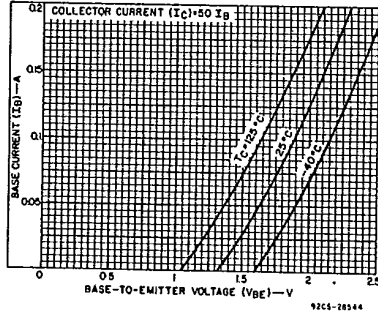


Fig. 5 — Typical input characteristics for both types.

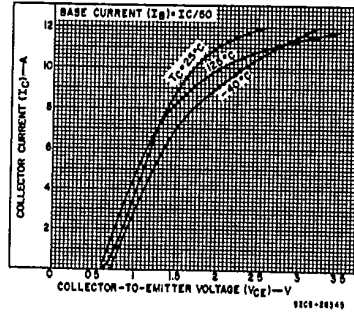


Fig. 6 — Typical output characteristics for both types.

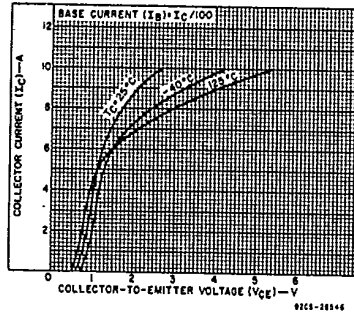


Fig. 7 — Typical output characteristics for both types.

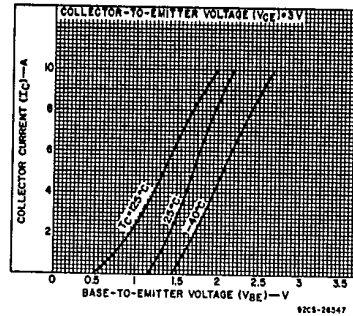
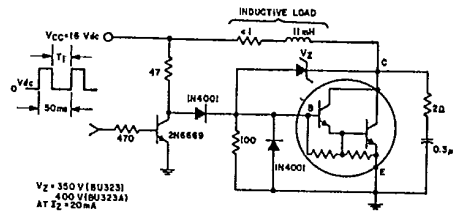


Fig. 8 — Typical transfer characteristics for both types.



V₂ = 350 V (BU323)
400 V (BU323A)
AT I_T = 20 mA

T₁ TO BE SELECTED SUCH THAT I_C REACHES 10 A dc
BEFORE SWITCH-OFF
NOTE FIGURE 10 SPECIFIES ENERGY HANDLING
CAPABILITIES FOR AN AUTOMOTIVE IGNITION
CIRCUIT.

9200-2824A1

Fig. 9 — Ignition test circuit.