NPN POWER DARLINGTON TRANSISTOR ARRAY

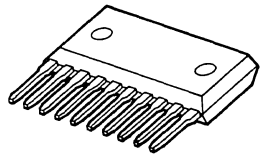
D76A5D

100 VOLTS
5 AMP, 4 WATTS

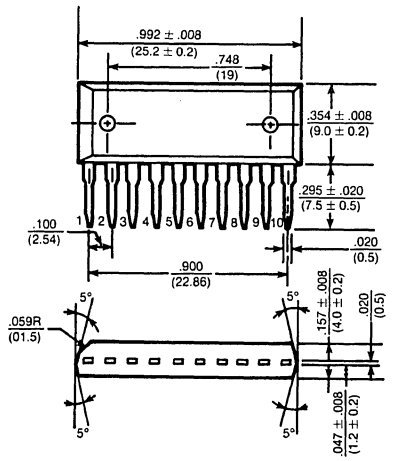
Designed for high power switching applications, hammer drive, pulse motor drive and inductive load drive applications.

Features:

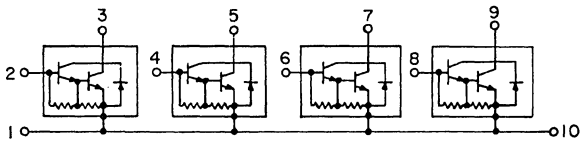
- High reliability small-sized available (4 in 1)
- Epoxy single-inline package (10 pin)
- High collector power dissipation: P_D = 4W @ T_A = 25°C (Four device action)
- High collector current: I_C = 5A (Max.)
- High DC current gain: h_{FE} = 2000 (Min.) @ V_{CE} = 3V, I_C = 3A



CASE STYLE SIP-10 PIN
DIMENSIONS ARE IN INCHES AND (MILLIMETERS)



ARRAY CONFIGURATION



maximum ratings (T_A = 25°C) (unless otherwise specified)

RATING	SYMBOL	D76A5D	UNITS
Collector-Emitter Voltage	V_{CEO}	100	Volts
Collector-Base Voltage	V_{CBO}	100	Volts
Emitter Base Voltage	V_{EBO}	5	Volts
Collector Current — Continuous Peak	I_C I_{CM}	5 8	A
Base Current — Continuous	I_B	0.1	A
Collector Power Dissipation (One Device Action, T_A = 25°C)	P_D	2.0	Watts
Collector Power Dissipation (Four Device Action, T_A = 25°C)	P_D	4.0	Watts
Operating and Storage Junction Temperature Range	T_J, T_{STG}	-55 to +150	°C

thermal characteristics

Thermal Resistance, Junction to Ambient (Four Device Action)	$\Sigma R_{\theta JA}$	31.3	°C/W
Maximum Lead Temperature for Soldering Purpose: ⅛" from Case for 5 Seconds	T_L	260	°C

electrical characteristics (T_A = 25° C) (unless otherwise specified)

CHARACTERISTIC	SYMBOL	MIN	TYP	MAX	UNIT
off characteristics					
Collector-Emitter Breakdown Voltage (I_C = 30mA, I_B = 0)	$V_{BR(CEO)}$	100	—	—	Volts
Collector Cutoff Current (V_{CE} = 50V, I_B = 0)	I_{CEO}	—	—	0.5	mA
Collector Cutoff Current (V_{CB} = 100V, I_E = 0)	I_{CBO}	—	—	200	μA
Emitter Cutoff Current (V_{EB} = 5V, I_C = 0)	I_{EBO}	—	—	2	mA
on characteristics					
DC Current Gain (I_C = .5A, V_{CE} = 3V) (I_C = 3a, V_{CE} = 3V)	h_{FE}	1000 1000	— —	— —	—
Collector-Emitter Saturation Voltage (I_C = 3A, I_B = 12mA) (I_C = 5A, I_B = 20mA)	$V_{CE(sat)}$	— —	— —	2 4	Volts
Base-Emitter Voltage (I_C = 3V, I_B = 3A)	$V_{BE(on)}$	—	—	2.5	Volts
switching characteristics					
Turn-on Time	I_C = 3A, I_{B1} = -I_{B2} = 12mA $V_{BE(off)}$ = -5V, R_L = 10Ω	t_{on}	—	1.5	—	μs
Fall Time		t_f	—	8.5	—	

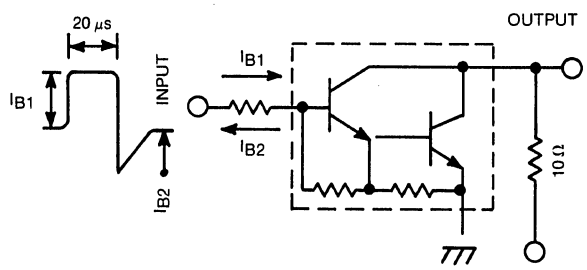


FIG. 1 SWITCHING TIME TEST CIRCUIT