NPN POWER DARLINGTON TRANSISTOR ARRAY

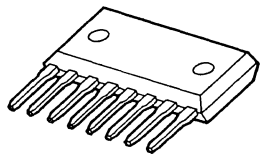
D74FI2D

60 VOLTS
2 AMP, 3 WATTS

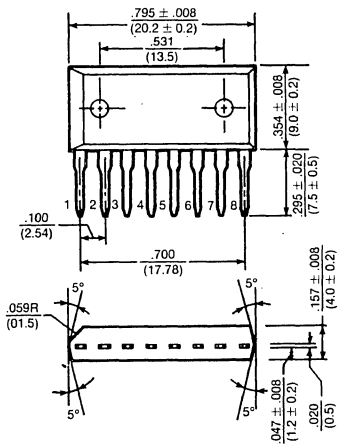
Designed for high power switching applications, hammer drive, pulse motor drive and inductive load drive applications.

Features:

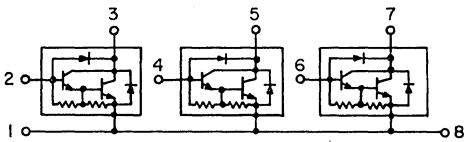
- High reliability small-sized available (3 in 1)
- Epoxy single-inline package (8 pin)
- Zener diode included between collector and base
- High collector power dissipation: P_D = 3W @ T_A = 25°C (Three device action)
- High collector current: I_C = 2A (Max.)
- High DC current gain: h_{FE} = 2000 (Min.) @ V_{CE} = 2V, I_C = 1A



CASE STYLE SIP-8 PIN
DIMENSIONS ARE IN INCHES AND (MILLIMETERS)



ARRAY CONFIGURATION



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

RATING	SYMBOL	D74FI2D	UNITS
Collector-Emitter Voltage	V_{CEO}	60 ± 10	Volts
Collector-Base Voltage	V_{CBO}	60 ± 10	Volts
Emitter Base Voltage	V_{EBO}	8	Volts
Collector Current — Continuous Peak	I_C I_{CM}	2 3	A
Base Current — Continuous	I_B	0.5	A
Collector Power Dissipation (One Device Action, T_A = 25°C)	P_D	1.8	Watts
Collector Power Dissipation (Three Device Action, T_A = 25°C)	P_D	3.0	Watts
Operating and Storage Junction Temperature Range	T_J, T_{STG}	-55 to +150	°C

thermal characteristics

Thermal Resistance, Junction to Ambient (Three Device Action)	$\Sigma R_{\theta JA}$	41.7	°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 = 10mA, I_B = 0)	$V_{BR(CEO)}$	50	60	70	Volts
Collector-Base Breakdown Voltage (I_C = 10mA, I_E = 0)	$V_{BR(CBO)}$	50	60	70	Volts
Collector Cutoff Current (V_{CB} = 45V, I_E = 0)	I_{CBO}	—	—	10	μA
Collector Cutoff Current (V_{CE} = 45V, I_B = 0)	I_{CEO}	—	—	10	μA
Emitter Cutoff Current (V_{EB} = 8V, I_C = 0)	I_{EBO}	0.8	—	4.0	mA
on characteristics					
DC Current Gain (I_C = 1A, V_{CE} = 2V)	h_{FE}	2000	—	—	—
Collector-Emitter Saturation Voltage (I_C = 1A, I_B = 1mA)	$V_{CE(sat)}$	—	—	1.5	Volts
Base-Emitter Saturation Voltage (I_C = 1A, I_B = 1mA)	$V_{BE(sat)}$	—	—	2.0	Volts
switching characteristics					
Turn-on Time	V_{CC} = 30V I_{B1} = -I_{B2} = 1mA Duty Cycle = 1%	t_{on}	—	0.4	—	μs
Storage Time		t_{stg}	—	4.0	—	
Fall Time		t_f	—	0.6	—	

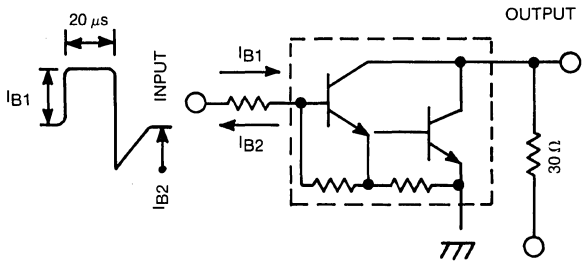


FIG. 1 SWITCHING TIME TEST CIRCUIT

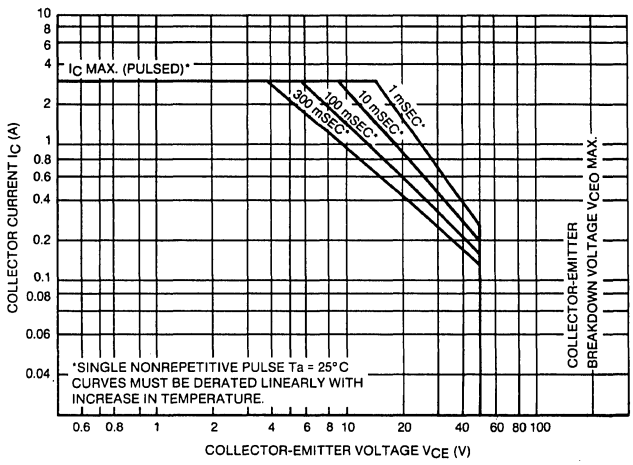


FIG. 2 SAFE OPERATING AREA