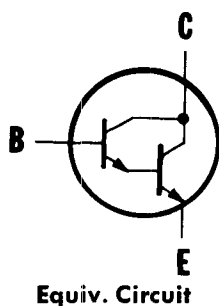
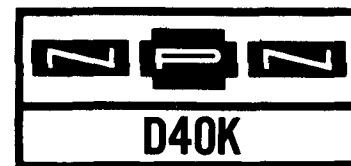


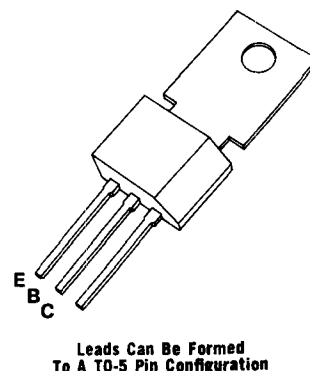
Silicon Power Tab Monolithic Transistor Very High Gain Darlington Amplifier "Color Molded"



NPN Complement To D41K
 h_{FE} Min. — 10,000
1.67 Watt Free-Air Power Dissipation

TYPICAL APPLICATIONS:

- | | |
|----------------------|------------------|
| Driver | Audio Output |
| Regulator | Relay Substitute |
| Touch Switch | Oscillator |
| I.C. Driver | Servo-Amplifier |
| Capacitor Multiplier | |



absolute maximum ratings: (25°C) (unless otherwise specified)

		D40K1, 3	D40K2, 4	Units
Voltages	Symbol			
Collector to Emitter	V_{CEO}	30	50	Volts
Emitter to Base	V_{EBO}	13	13	Volts
Collector to Emitter	V_{CES}	30	50	Volts
Current⁽²⁾				
Collector (Continuous)	I_C	← 2 →	← 2 →	Amps
Collector (Peak) (50% duty cycle, 25 msec. pulse width)		← 3 →	← 3 →	Amps
Power Dissipation⁽²⁾				
Tab at 25°C ⁽³⁾	P_T	← 10 →	← 10 →	Watts
Tab at 70°C		← 6 →	← 6 →	Watts
Free Air at 25°C				
With Tab		← 1.67 →	← 1.67 →	Watts
Without Tab		← 1.25 →	← 1.25 →	Watts
Free Air at 50°C				
With Tab		← 1.33 →	← 1.33 →	Watts
Without Tab		← 1.0 →	← 1.0 →	Watts
Thermal Resistance⁽³⁾				
Junction to Case	$R_{\theta JC}$	← 12.5 →	← 12.5 →	°C/W
Junction to Ambient	$R_{\theta JA}$			
With Tab		← 75 →	← 75 →	°C/W
Without Tab		← 100 →	← 100 →	°C/W
Temperature⁽³⁾				
Operating	T_J	← -55 to +150 →	← -55 to +150 →	°C
Storage	T_{STG}	← -55 to +150 →	← -55 to +150 →	°C
Lead Soldering, 1/16" ± 1/32" from case for 10 sec max	T_L	← +260 →	← +260 →	°C

NOTES:

- ① The last digit is a part number which designates a voltage grade and an h_{FE} level. Tab and lead forming is specified by a letter after this digit.
- ② Please refer to the safe region of operation curves for more information.
- ③ Tab temperature is measured on center of tab, 1/16" from plastic body.

D40K

electrical characteristics: (25°C) (unless otherwise specified)

D40K1, 3
D40K2, 4

		Min.	Typ.	Max.	
Forward Current Transfer Ratio					
($I_C = 200 \text{ mA}$, $V_{CE} = 5 \text{ V}$)	h_{FE}	10K			
($I_C = 1.5 \text{ A}$, $V_{CE} = 5 \text{ V}$)		1K			
($I_C = 1.0 \text{ A}$, $V_{CE} = 5 \text{ V}$)		1K			
Collector to Emitter Voltage					
($I_C = 10 \text{ mA}$) D40K1, 3	V_{CEO}	30	—	—	Volts
D40K2, 4		50	—	—	Volts
Collector Saturation Voltage⁽⁴⁾					
($I_C = 1.5 \text{ A}$, $I_B = 3 \text{ mA}$) D40K1, 2	$V_{CE(SAT)}$	—	—	1.5	Volts
($I_C = 1.0 \text{ A}$, $I_B = 2 \text{ mA}$) D40K3, 4		—	—	1.5	Volts
Base Saturation Voltage⁽⁴⁾					
($I_C = 1.5 \text{ A}$, $I_B = 3 \text{ mA}$) D40K1, 2	$V_{BE(SAT)}$	—	—	2.5	Volts
($I_C = 1.0 \text{ A}$, $I_B = 2 \text{ mA}$) D40K3, 4		—	—	2.5	Volts
Collector Cutoff Current					
($V_{CE} = \text{Rated } V_{CES}$, $T_J = 25^\circ\text{C}$)	I_{CES}	—	—	0.5	μA
($V_{CE} = \text{Rated } V_{CES}$, $T_J = 150^\circ\text{C}$)	I_{CBO}	—	—	20	μA
Emitter Cutoff Current					
($V_{EB} = 13 \text{ V}$)	I_{EBO}	—	—	0.1	μA
Collector Capacitance					
($V_{CB} = 10 \text{ V}$, $f = 1 \text{ MHz}$)	C_{CBO}	—	5	10	pF
Gain Bandwidth Product					
($V_{CE} = 5 \text{ V}$, $I_C = 20 \text{ mA}$)	f_T	—	75	—	MHz

NOTE:

⁽⁴⁾Pulsed measurement, 300 μsec pulse width, duty cycle $\leq 2\%$.

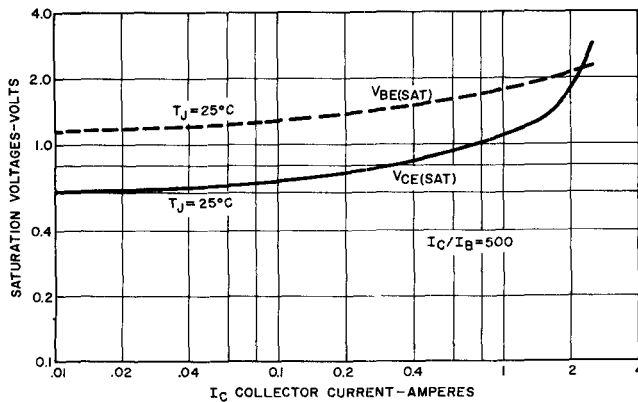


Figure 1
TYPICAL SATURATION VOLTAGE

Figure 2
TYPICAL h_{FE} vs. I_C

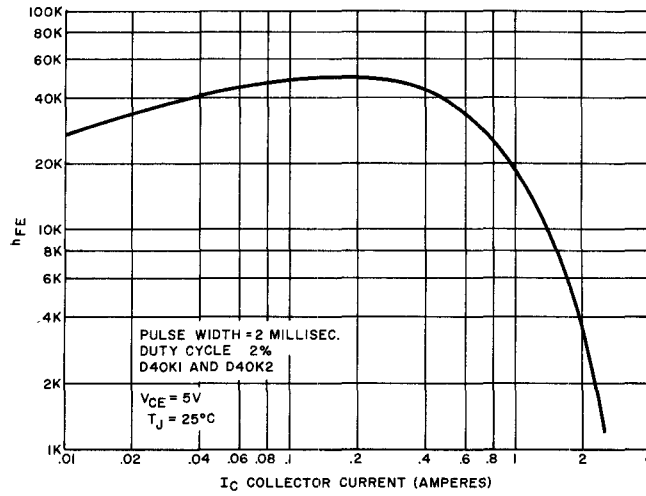
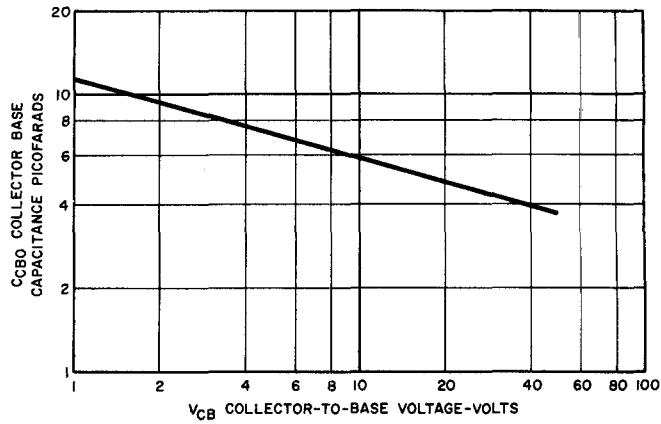
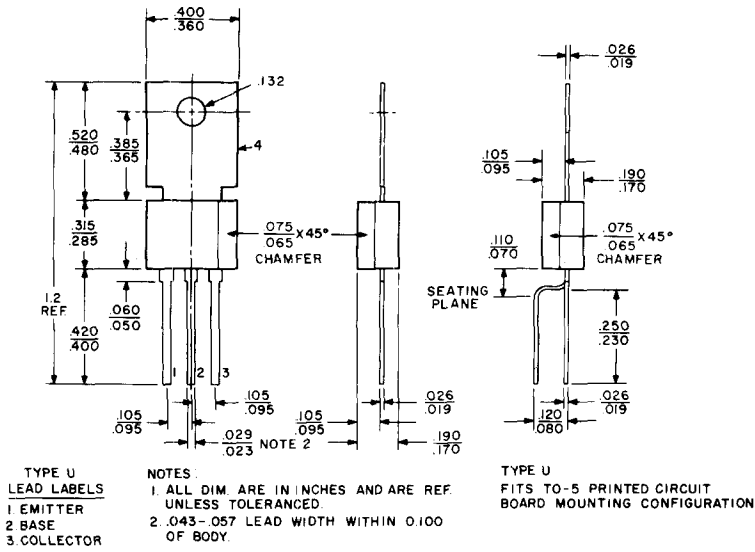


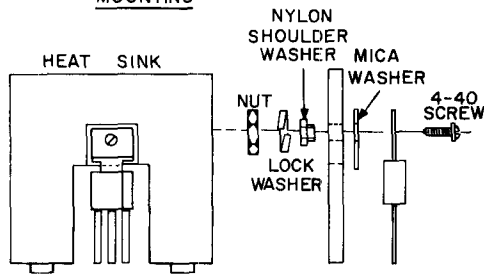
Figure 3
TYPICAL C_{CBO} vs. VOLTAGE



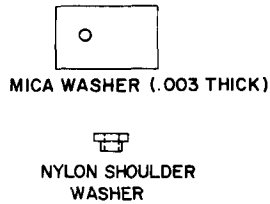
DIMENSIONAL OUTLINES



TYPICAL INSULATING MOUNTING



INSULATING KIT



NOTE: THE THERMAL RESISTANCE TAB TO HEAT SINK WITH THE MICA WASHER IS APPROXIMATELY 75°C/W WITHOUT ANY THERMAL CONDUCTING COMPOUND AND ABOUT 3.75°C/W WITH A THERMAL CONDUCTING GREASE.

THE ABOVE PARTS WILL BE AVAILABLE UPON REQUEST AS A SEPARATE KIT AT AN ADDITIONAL COST. KIT #13888189P11