

20 STERN AVE.
SPRINGFIELD, NEW JERSEY 07081
U.S.A.

D41K Series

**-30 - (-50) VOLTS
-2 AMP, 10 WATTS**

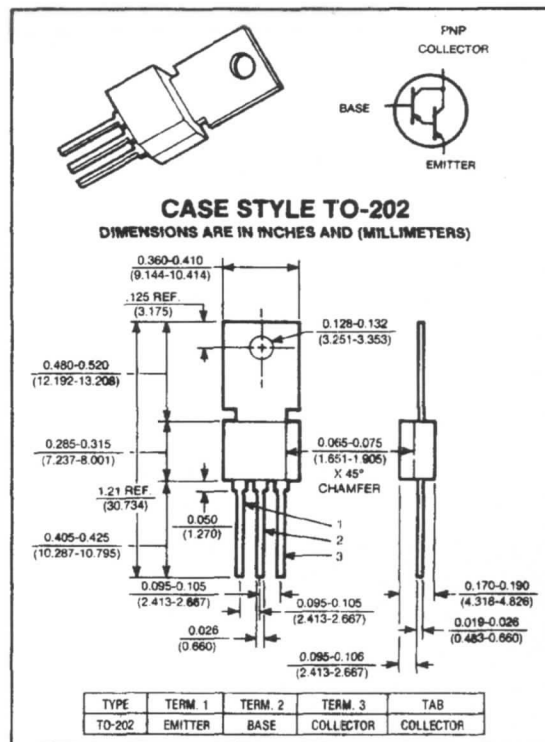
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**VERY HIGH GAIN
PNP POWER DARLINGTON
TRANSISTORS**

COMPLEMENTARY TO THE D40K SERIES

Applications:

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



maximum ratings ($T_A = 25^\circ\text{C}$) (unless otherwise specified)

RATING	SYMBOL	D41K1,3	D41K2,4	UNITS
Collector-Emitter Voltage	V_{CEO}	-30	-50	Volts
Collector-Emitter Voltage	V_{CES}	-13	-13	Volts
Emitter Base Voltage	V_{EBO}	-30	-50	Volts
Collector Current — Continuous	I_C	-2	-2	A
Peak ⁽¹⁾	I_{CM}	-3	-3	A
Base Current — Continuous	I_B	.2	.2	A
Total Power Dissipation @ $T_A = 25^\circ\text{C}$ @ $T_C = 25^\circ\text{C}$	P_D	-1.67 -10	-1.67 -10	Watts
Operating and Storage Junction Temperature Range	T_J, T_{STG}	-55 to +150	-55 to +150	$^\circ\text{C}$

thermal characteristics

Thermal Resistance, Junction to Ambient	$R_{\theta JA}$	75	75	$^\circ\text{C/W}$
Thermal Resistance, Junction to Case	$R_{\theta JC}$	12.5	12.5	$^\circ\text{C/W}$
Maximum Lead Temperature for Soldering Purposes: 1/8" from Case for 5 Seconds	T_L	260	260	$^\circ\text{C}$

(1) Pulse Test: Pulse Width = 300ms. Duty Cycle \leq 2%.

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electrical characteristics ($T_C = 25^\circ C$) (unless otherwise specified)

CHARACTERISTIC	SYMBOL	MIN	TYP	MAX	UNIT
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off characteristics⁽¹⁾

Collector-Emitter Voltage ($I_C = 10mA$)	D41K1,3 D41K2,4	V_{CE0}	-30 -50	— —	— —	Volts
Collector Cut-off Current ($V_{CE} = \text{Rated } V_{CES}$)		I_{CES}	—	—	-0.5	μA
Emitter Cutoff Current ($V_{EB} = -13V$)		I_{EBO}	—	—	-0.1	μA

on characteristics

DC Current Gain ($I_C = -200mA, V_{CE} = -5V$)		h_{FE}	10K	—	—	—
($I_C = -1.5A, V_{CE} = -5V$) ($I_C = -1A, V_{CE} = -5V$)	D41K1,2 D41K3,4	h_{FE}	1K 1K	— —	— —	— —
Collector-Emitter Saturation Voltage ($I_C = -1.5A, I_B = -3mA$) ($I_C = -1.0A, I_B = -2mA$)	D41K1,2 D41K3,4	$V_{CE(sat)}$	— —	— —	1.5 1.5	Volts V
Base-Emitter Saturation Voltage ($I_C = -1.5A, I_B = -3mA$) ($I_C = -1A, I_B = -2mA$)	D41K1,2 D41K3,4	$V_{BE(sat)}$	— —	— —	2.5 2.5	Volts

dynamic characteristics

Collector Capacitance ($V_{CE} = -10V, f = 1MHz$)	C_{CBO}	—	9	15	μF
Current-Gain — Bandwidth Product ($I_C = -20mA, V_{CE} = -5V$)	f_T	—	100	—	MHz

(1) Pulse Test: PW \leq 300ms Duty Cycle \leq 2%.

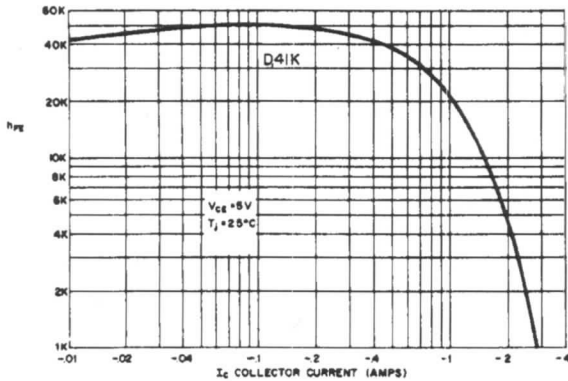


FIG. 1 TYPICAL h_{FE} vs. I_C

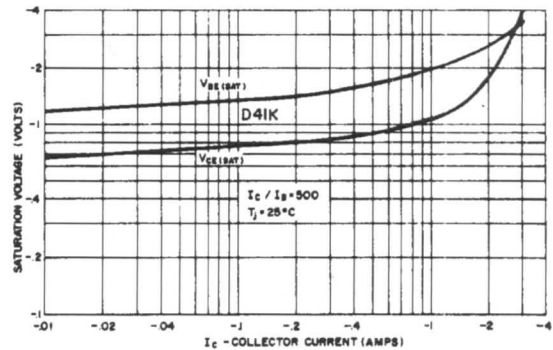


FIG. 2 TYPICAL C_{CBO} vs. VOLTAGE

