



VERY HIGH GAIN PNP POWER DARLINGTON TRANSISTORS

COMPLEMENTARY TO THE D40K SERIES

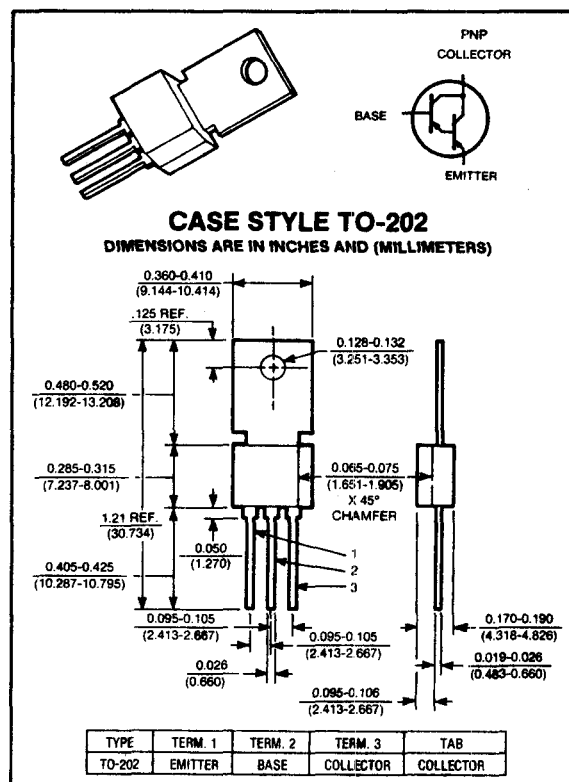
D41K Series

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

Applications:

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

www.DataSheet4U.com



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
Collector Current — 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 $\leq 2\%$.

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

CHARACTERISTIC	SYMBOL	MIN	TYP	MAX	UNIT
----------------	--------	-----	-----	-----	------

off characteristics⁽¹⁾

Collector-Emitter Voltage I _C = 10mA	D41K1,3 D41K2,4	V _{CEO}	-30 -50	— —	— —	Volts
Collector Cut-off Current (V _{CE} = Rated V _{CE} S)		I _{CES}	—	—	-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	pF
Current-Gain — Bandwidth Product (I _C = -20mA, V _{CE} = -5V)		f _T	—	100	—	MHz

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

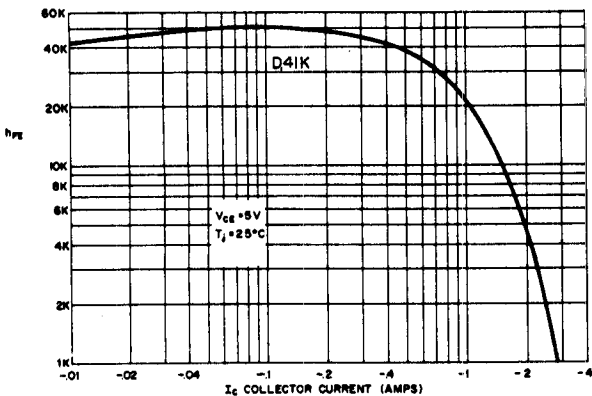


FIG. 1 TYPICAL hFE vs. IC

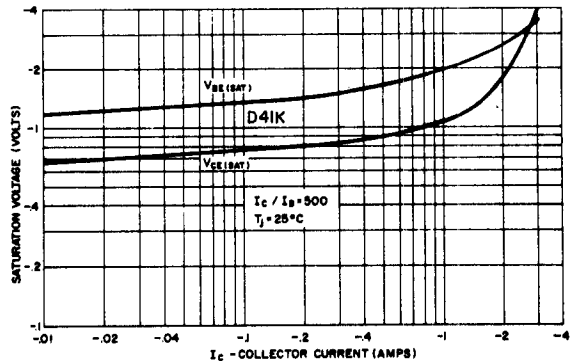


FIG. 2 TYPICAL CCBO vs. VOLTAGE

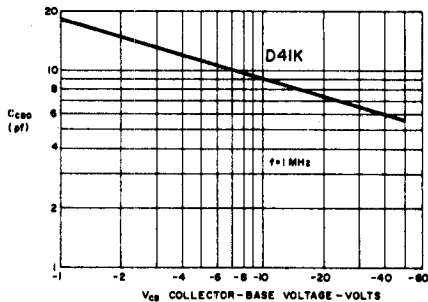


FIG. 3 TYPICAL SATURATION VOLTAGE