PPC, Inc.
Microsemi
Progress Powered by Technology

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2N3741A

APPLICATIONS:

- Drivers
- Switches
- Medium-Power Amplifiers

FEATURES:

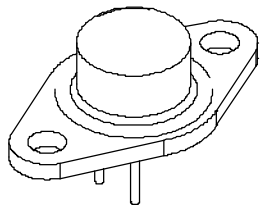
- Low Saturation Voltage: 0.6 $V_{CE(sat)}$ @ I_C = 1.0 Amp
- High Gain Characteristics: hFE @ I_C = 250 mA: 30-100
- Excellent Safe Area Limits
- Low Collector Cutoff Current: 100 nA (Max) 2N3741A

Medium Power PNP Transistors

DESCRIPTION:

These power transistors are produced by PPC's DOUBLE DIFFUSED PLANAR process. This technology produces high voltage devices with excellent switching speeds, frequency response, gain linearity, saturation voltages, high current gain, and safe operating areas. They are intended for use in Commercial, Industrial, and Military power switching, amplifier, and regulator applications.

Ultrasonically bonded leads and controlled die mount techniques are utilized to further increase the SOA capability and inherent reliability of these devices. The temperature range to 200°C permits reliable operation in high ambients, and the hermetically sealed package insures maximum reliability and long life.



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ABSOLUTE MAXIMUM RATINGS:

SYMBOL	CHARACTERISTIC	VALUE	UNITS
V_{CEO}*	Collector-Emitter Voltage	80	Vdc
V_{EB}*	Emitter-Base Voltage	7.0	Vdc
V_{CB}*	Collector-Base Voltage	80	Vdc
I_C*	Peak Collector Current	10	Adc
I_C*	Continuous Collector Current	4.0	Adc
I_B*	Base Current	2.0	Adc
T_{STG}*	Storage Temperature	-65 to 200	°C
T_J*	Operating Junction Temperature	-65 to 200	°C
P_D*	Total Device Dissipation	25	Watts
	T_C = 25°C		
	Derate above 25°C	0.143	W/°C
θ JC	Thermal Impedance	7	°C/W

* Indicates JEDEC registered data.

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ELECTRICAL CHARACTERISTICS:
(25°Case Temperature Unless Otherwise Noted)

SYMBOL	CHARACTERISTIC	TEST CONDITIONS	VALUE		Units
			Min.	Max.	
$V_{CEO(sus)}$*	Collector-Emitter Sustaining Voltage	I_C = 100 mAdc, I_B = 0 (Note 1)	80	----	Vdc
I_{EB0}*	Emitter Base Cutoff Current	V_{EB} = 7.0 Vdc	----	100	nAdc
I_{CEX}*	Collector Cutoff Current	V_{CE} = 80 Vdc, $V_{BE(off)}$ = 1.5 Vdc	----	100	nAdc
		V_{CE} = 60 Vdc, $V_{BE(off)}$ = 1.5 Vdc, T_C = 150°C	----	0.5	mAdc
I_{CEO}*	Collector-Emitter Cutoff Current	V_{CE} = 60 Vdc, I_B = 0	----	1.0	µAdc
I_{CBO}*	Collector Base Cutoff Current	V_{CB} = 80 Vdc, I_E = 0	----	100	nAdc
h_{FE}*	DC Current Gain (Note 1)	I_C = 100 mAdc, V_{CE} = 1.0 Vdc	40	----	----
		I_C = 250 mAdc, V_{CE} = 1.0 Vdc	30	100	----
		I_C = 500 mAdc, V_{CE} = 1.0 Vdc	20	----	----
		I_C = 1.0 Adc, V_{CE} = 1.0 Vdc	10	----	----
$V_{CE(sat)}$*	Collector-Emitter Saturation Voltage (Note 1)	I_C = 1.0 Adc, I_B = 125 mAdc	----	0.6	Vdc
V_{BE}*	Base-Emitter Voltage (Note 1)	I_C = 250 mAdc, V_{CE} = 1.0 Vdc	----	1.0	Vdc
f_T*	Current Gain Bandwidth Product	I_C = 100 mAdc, V_{CE} = 10 Vdc, f = 1.0 MHz	3.0	----	MHz
h_{fe}*	Small-Signal Current Gain	I_C = 50 mAdc, V_{CE} = 10 Vdc, f = 1.0 kHz	25	----	----
C_{ob}*	Common Base Output Capacitance	V_{CB} = 10 Vdc, I_C = 0, f = 100 kHz	----	100	pF

Note 1: Pulse Test: PW ≤ 300µs, Duty Cycle ≤ 2.0%

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PACKAGE MECHANICAL DATA: