

TIP41A/41B/41C TIP42A/42C

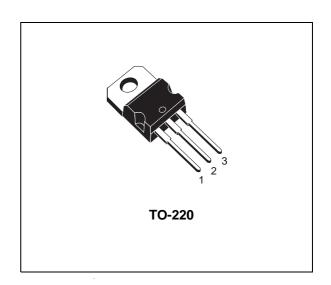
COMPLEMENTARY SILICON POWER TRANSISTORS

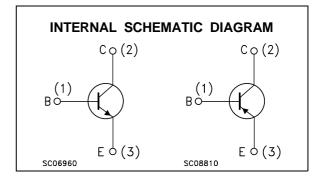
■ COMPLEMENTARY PNP - NPN DEVICES

DESCRIPTION

The TIP41A, TIP41B and TIP41C are silicon Epitaxial-Base NPN power transistors mounted in Jedec TO-220 plastic package. They are intented for use in medium power linear and switching applications.

The TIP41A and TIP41C complementary PNP types are TIP42A and TIP42C respectively.





ABSOLUTE MAXIMUM RATINGS

Symbol	Parameter			Unit		
		NPN	TIP41A	TIP41B	TIP41C	1
		PNP	TIP42A		TIP42C	
V _{CBO}	Collector-Base Voltage (I _E = 0)		60	80	100	V
V _{CEO}	Collector-Emitter Voltage (I _B = 0)		60	80	100	V
V _{EBO}	Emitter-Base Voltage (I _C = 0)			V		
Ic	Collector Current			Α		
I _{CM}	Collector Peak Current			Α		
Ι _Β	Base Current			Α		
P _{tot}	Total Dissipation at T _{case} ≤ 25 °C			65		W
	T _{amb} ≤ 25 °C			2		W
T _{stg}	Storage Temperature		-65 to 150			°C
Ti	Max. Operating Junction Temperature			°C		

For PNP types voltage and current values are negative.

October 1999 1/4

TIP41A/TIP41B/TIP41C/TIP42A/TIP42C

THERMAL DATA

R _{thj-case}	Thermal Resistance Junction-case	Max	1.92	°C/W
R _{thj-amb}	Thermal Resistance Junction-ambient	Max	62.5	°C/W

ELECTRICAL CHARACTERISTICS (T_{case} = 25 °C unless otherwise specified)

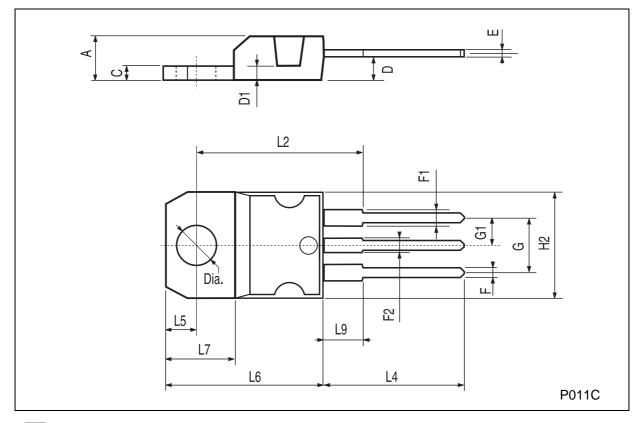
Symbol	Parameter	Test Conditions	Min.	Тур.	Max.	Unit
I _{CEO}	Collector Cut-off Current (I _B = 0)	for TIP41A/42A $V_{CE} = 30 \text{ V}$ for TIP41B/41C/42C $V_{CE} = 60 \text{ V}$			0.7 0.7	mA mA
I _{CES}	Collector Cut-off Current (V _{BE} = 0)				0.4 0.4 0.4	mA mA mA
I _{EBO}	Emitter Cut-off Current (I _C = 0)	V _{EB} = 5 V			1	mA
V _{CEO(sus)} *	Collector-Emitter Sustaining Voltage (I _B = 0)	I _C = 30 mA for TIP41A/42A for TIP41B for TIP41C/42C	60 80 100			V V V
V _{CE(sat)} *	Collector-Emitter Saturation Voltage	$I_C = 6 \text{ A}$ $I_B = 0.6 \text{ A}$			1.5	V
V _{BE(on)} *	Base-Emitter Voltage	$I_C = 6 A$ $V_{CE} = 4 V$			2	V
h _{FE} *	DC Current Gain	$\label{eq:controller} \begin{array}{llllllllllllllllllllllllllllllllllll$	30 15		75	
h _{fe}	Small Signal Current Gain	$I_{C} = 0.5 \text{ A}$ $V_{CE} = 10 \text{ V}$ $f = 1 \text{ KHz}$ $I_{C} = 0.5 \text{ A}$ $V_{CE} = 10 \text{ V}$ $f = 1 \text{ MHz}$	20 3			

2/4

^{*} Pulsed: Pulse duration = 300 μ s, duty cycle \leq 2 % For PNP types voltage and current values are negative.

TO-220 MECHANICAL DATA

DIM.	mm			inch			
DIIVI.	MIN.	TYP.	MAX.	MIN.	TYP.	MAX.	
Α	4.40		4.60	0.173		0.181	
С	1.23		1.32	0.048		0.051	
D	2.40		2.72	0.094		0.107	
D1		1.27			0.050		
Е	0.49		0.70	0.019		0.027	
F	0.61		0.88	0.024		0.034	
F1	1.14		1.70	0.044		0.067	
F2	1.14		1.70	0.044		0.067	
G	4.95		5.15	0.194		0.203	
G1	2.4		2.7	0.094		0.106	
H2	10.0		10.40	0.393		0.409	
L2		16.4			0.645		
L4	13.0		14.0	0.511		0.551	
L5	2.65		2.95	0.104		0.116	
L6	15.25		15.75	0.600		0.620	
L7	6.2		6.6	0.244		0.260	
L9	3.5		3.93	0.137		0.154	
DIA.	3.75		3.85	0.147		0.151	



3/4

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4/4