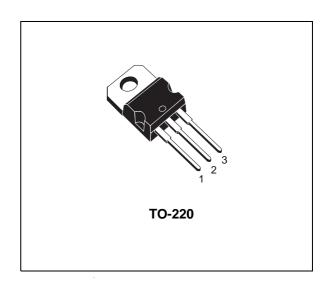
TIP47/TIP48 TIP49/TIP50

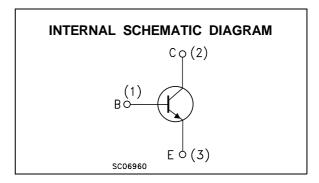
SILICON NPN SWITCHING TRANSISTORS

- STMicroelectronics PREFERRED SALESTYPES
- NPN TRANSISTOR

DESCRIPTION

The TIP47, TIP48, TIP49 and TIP50 are silicon Multiepitaxial NPN Planar transistors mounted in Jedec TO-220 plastic package. It is intented for use in linear and switching applications.





ABSOLUTE MAXIMUM RATINGS

Symbol	Parameter		Value			Unit
		TIP47	TIP48	TIP49	TIP50	
V _{CBO}	Collector-Base Voltage (I _E = 0)	350	400	450	500	V
V_{CEO}	Collector-Emitter Voltage (I _B = 0)	250	300	350	400	V
V _{EBO}	Emitter-Base Voltage (I _C = 0)	5		V		
Ic	Collector Current	1		Α		
I _{CM}	Collector Peak Current	2		Α		
Ι _Β	Base Current	0.6		Α		
P _{tot}	Total Dissipation at T _{case} ≤ 25 °C		4	0		W
	T _{amb} ≤ 25 °C		2	2		W
T _{stg}	Storage Temperature		-65 to	150		°C
Tj	Max. Operating Junction Temperature		15	50		°C

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THERMAL DATA

R _{thj-case}	Thermal Resistance Junction-case	Max	3.125	°C/W
R _{thj-amb}	Thermal Resistance Junction-ambient	Max	62.5	°C/W

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

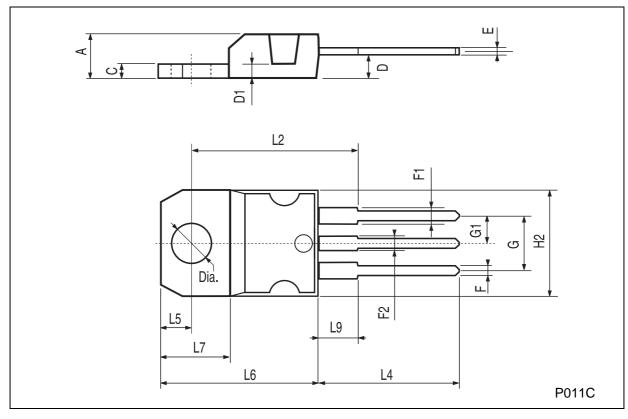
Symbol	Parameter	Test Cond	ditions	Min.	Тур.	Max.	Unit
I _{CES}	Collector Cut-off Current (V _{BE} = 0)	for TIP47 for TIP48 for TIP49 for TIP50	V _{CE} = 350 V V _{CE} = 400 V V _{CE} = 450 V V _{CE} = 500 V			1 1 1	mA mA mA
ICEO	Collector Cut-off Current (I _B = 0)	for TIP47 for TIP48 for TIP49 for TIP50	V _{CE} = 150 V V _{CE} = 200 V V _{CE} = 250 V V _{CE} = 300 V			1 1 1	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 TIP47 for TIP48 for TIP49 for TIP50		250 300 350 400			V V V
V _{CE(sat)} *	Collector-Emitter Saturation Voltage	I _C = 1 A	I _B = 0.2 A			1	V
V _{BE(on)} *	Base-Emitter Voltage	I _C = 1 A	V _{CE} = 10 V			1.5	V
h _{FE} *	DC Current Gain	I _C = 0.3 A I _C = 1 A	V _{CE} = 10 V V _{CE} = 10 V	30 10		150	
f⊤	Transition Frequency	V _{CE} = 10 V f = 2 MHz	I _C = 0.2 A	10			MHz
h _{fe}	Small Signal Current Gain	V _{CE} = 10 V f = 1 KHz	I _C = 0.2 A	25			

^{*} Pulsed: Pulse duration = 300 μs, duty cycle ≤ 2 %

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TO-220 MECHANICAL DATA

DIM.	mm			inch			
	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	



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