multicomp

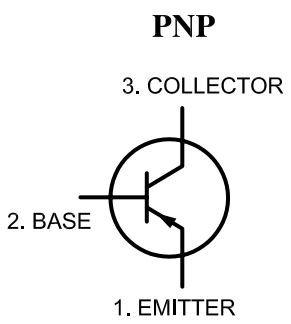
REVISIONS								
DOC. NO. SPC-F004 * Effective: 7/8/02 * DCP No: 1398								
DCP #	REV	DESCRIPTION	DRAWN	DATE	CHECKD	DATE	APPRVD	DATE
1447	A	RELEASED	HO	4/16/03	JWM	4/16/03	DJC	4/16/03
1885	B	UPDATED TO ROHS COMPLIANCE	EO	02/03/06	HO	2/6/06	HO	2/6/06

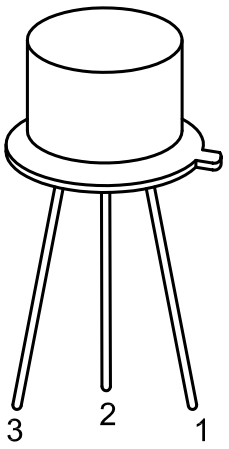
Description: A widely used "Industry Standard" silicon PNP transistor in a TO-18 type case designed for applications such as medium-speed switching and amplifiers from audio to VHF frequencies.

Features:
- Low Collector Saturation Voltage: 1V (Max)
- High Current gain-Bandwidth Product: f_T = 300MHz (Min) @ I_C = 20mA

Absolute Maximum Ratings:
- Collector-Base Voltage, V_{CBO} = 60V
- Collector-Emitter Voltage, V_{CEO} = 60V
- Emitter-Base Voltage, V_{EBO} = 5V
- Continuous Collector Current, I_C = 600mA
- Total Device Dissipation (T_A = +25°C), P_D = 400mW
  Derate above 25°C = 2.28mW/°C
- Total Device Dissipation (T_C = +25°C), P_D = 1.8W
  Derate above 25°C = 10.3mW/°C
- Operating Junction Temperature Range, T_J = −65° to +200°C
- Storage Temperature Range, T_{stg} = −65° to +200°C

RoHS Compliant

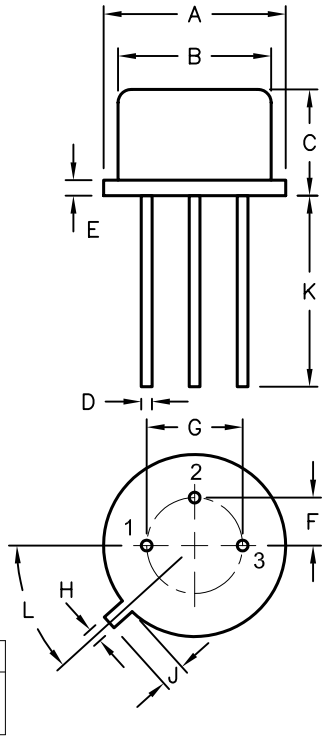




1. EMITTER
2. BASE
3. COLLECTOR

Electrical Characteristics: (T_A = +25°C unless otherwise specified)

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
OFF Characteristics						
Collector-Emitter Breakdown Voltage	$V_{(BR)CEO}$	I_C = 10mA, I_B = 0	60	–	–	V
Collector-Base Breakdown Voltage	$V_{(BR)CBO}$	I_C = 10µA, I_E = 0	60	–	–	V
Emitter-Base Breakdown Voltage	$V_{(BR)EBO}$	I_C = 10µA, I_C = 0	5	–	–	V
Collector Cut-Off Current	I_{CEX}	V_{CE} = 30V, V_{BE} = 500mV	–	–	50	nA
	I_{CBO}	V_{CB} = 50V, I_E = 0	–	–	0.01	µA
		V_{CB} = 50V, I_E = 0, T_A = +150°C	–	–	10	µA
Base Cut-Off Current	I_{BL}	V_{CE} = 30V, $V_{EB(off)}$ = 500mV	–	–	50	nA
ON Characteristics						
DC Current Gain	h_{FE}	V_{CE} = 10V, I_C = 0.1mA	75	–	–	–
		V_{CE} = 10V, I_C = 1mA	100	–	–	–
		V_{CE} = 10V, I_C = 10mA	100	–	–	–
		V_{CE} = 10V, I_C = 150mA, Note 1	100	–	300	–
		V_{CE} = 10V, I_C = 500mA, Note 1	50	–	–	–
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$	I_C = 150mA, I_B = 15mA, Note 1	–	–	0.4	V
		I_C = 500mA, I_B = 50mA, Note 1	–	–	1.6	V
Base-Emitter Saturation Voltage	$V_{BE(sat)}$	I_C = 150mA, I_B = 15mA, Note 1	–	–	1.3	V
		I_C = 500mA, I_B = 50mA	–	–	2.6	V
Small-Signal Characteristics						
Current Gain-Bandwidth Product	f_T	V_{CE} = 20V, I_C = 50mA, f = 100MHz, Note 2	200	–	–	MHz
Output Capacitance	C_{obo}	V_{CB} = 10V, I_E = 0, f = 0.1MHz	–	–	8	pF
Input Capacitance	C_{ibo}	V_{BE} = 2V, I_C = 0, f = 100kHz	–	–	30	pF
Switching Characteristics						
Turn-On Time Time	t_{on}	V_{CC} = 30V, I_C = 150mA, I_B1 = 15mA	–	26	45	ns
Delay Time	t_d		–	6	10	ns
Rise Time	t_r		–	20	40	ns
Turn-Off Time	t_{off}	V_{CC} = 6V, I_C = 150mA, I_{B1} = I_{B2} = 15mA	–	70	100	ns
Storage Time	t_s		–	50	80	ns
Fall Time	t_f		–	20	30	ns



Note 1. Pulse Test: Pulse Width ≦ 300µs, Duty Cycle ≦ 2%.
Note 2. f_T is defined as the frequency at which $|h_{fe}|$ extrapolates to unity.

Dimensions	A	B	C	D	E	F	G	H	J	K	L
Min.	5.24	4.52	4.31	0.40	-	-	-	0.91	0.71	12.7	45°
Max.	5.84	4.97	5.33	0.53	0.76	1.27	2.97	1.17	1.21	-	

SPC-F004.DWG

TOLERANCES:	DRAWN BY:	DATE:	DRAWING TITLE: Transistor, Bipolar, Silicon, PNP, TO-18			
UNLESS OTHERWISE SPECIFIED, DIMENSIONS ARE FOR REFERENCE PURPOSES ONLY.	HISHAM ODISH	4/16/03				
	CHECKED BY:	DATE:	SIZE	DWG. NO.	ELECTRONIC FILE	REV
	JEFF MCVICKER	4/16/03	A	2N2907A	35C0696.DWG	B
	APPROVED BY:	DATE:	SCALE: NTS	U.O.M.: Millimeters	SHEET: 1 OF 1	
	DANIEL CAREY	4/16/03				