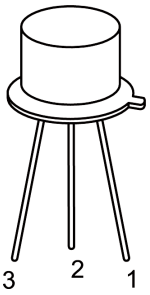
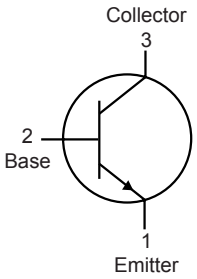
Bipolar Transistor

multicomp PRO

RoHS Compliant





Description:

A Silicon epitaxial NPN planer transistor in a TO-39 type package designed for use as drivers for high Power transistors in general purpose amplifier and switching circuits.

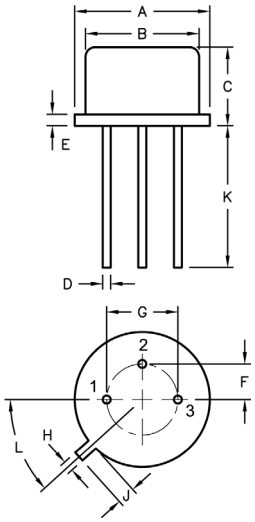
Maximum Ratings:

Characteristic	Symbol	Rating	Unit
Collector Emitter Voltage	V_{CEO}	100	V
Collector Base Voltage	(I_E = 0), V_{CBO}		
Emitter Base Voltage	(I_C = 0), V_{EBO}	4	
Collector Current	I_C	1	A
Base Current	I_B	500	mA
Total Device Dissipation	(T_C = +25°C), P_{tot}	10	W
Total Device Dissipation	(T_A = +25°C), P_{tot}	1	
Operating Junction Temperature	T_J	-65 to +200	°C
Storage Temperature Range	T_{stg}	-65 to +200	
Thermal Resistance, Junction-to-Case	R_{thJC}	17.4	°C/W
Thermal Resistance, Junction-to-Ambient	R_{thJA}	175	

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

Parameter	Symbol	Test Conditions	Min	Max	Unit
Collector Cutoff Current	I_{CBO}	V_{CB} = 100V, I_E = 0	-	1	µA
	I_{CEO}	V_{CE} = 70V, I_B = 0		10	
	I_{CEV}	V_{CE} = 100V, V_{BE} = -1.5V		-	
		V_{CE} = 100V, V_{BE} = -1.5V ,T_C = +150°C		1	mA
Emitter Cutoff Current	I_{EBO}	V_{EB} = 4V, I_C = 0			µA
Collector-Emitter Sustaining Voltage	$V_{CEO(SUS)}$	I_C = 10mA, I_B = 0, Note 1	100	-	V
Collector-Emitter Saturation Voltage	$V_{CE(Sat)}$	I_C= 250mA, I_B = 25mA, Note 1	-	0.6	
		I_C = 500mA, I_B = 50mA, Note 1		1	
		I_C = 1A, I_B = 200mA, Note1		2	
Base-Emitter Voltage	$V_{BE(on)}$	V_{CE} = 2V, I_C = 250mA		1	
DC Current Gain	h_{FE}	I_C = 250mA, V_{CE} = 2V, Note 1	40	150	-
		I_C = 1A, V_{CE} = 2V, Note 1	5	-	
Transition Frequency	f_T	V_{CE} = 10V, I_C = 100mA, f = 10MHz	30		MHz
Collector-Base Capacitance	C_{cbo}	V_{CB} = 20V, I_E = 0, f = 1MHz	-	50	pF
Small-Signal Current Gain	h_{fe}	V_{CE} = 1.5V, I_C = 200mA, f = 1kHz	40	-	-

Note:
1. Pulse Duration: 300µs, Duty Cycle ≦2%



Dimensions	A	B	C	D	E	F	G	H	J	K	L
Min.	8.5	7.74	6.09	0.4	-	2.41	4.82	0.71	0.73	12.7	42°
Max.	9.39	8.5	6.6	0.53	0.88	2.66	5.33	0.86	1.02	-	48°

Dimensions : Millimetres

Pin Configuration:
1. Emitter
2. Base 1
3. Base 2

Part Number Table

Description	Part Number
Transistor, NPN, 1A, 100V, TO-39	2N5681