General Purpose Transistor

multicomp PRO



Features

- NPN Silicon Planar Epitaxial Transistors.
- Complementary Transistors for use in Driver and Output Stages of Audio Amplifiers

Absolute Maximum Ratings

Parameter	Symbol	Value	Unit
Collector-Emitter Voltage	V_{CEO}	45	V
Collector-Emitter Voltage	V_{CES}	50	
Emitter-Base Voltage	V_{EBO}	5	
Collector Current Continuous Peak	I_C I_{CM}	800 1	mA A
Emitter Current Peak	I_{EM}	1	A
Base Current Continuous	I_B	100	mA
Base Current Peak	I_{BM}	200	
Power Dissipation at Ta = 25°C Derate above 25°C	P_{TA}	625 5	mW mW/°C
Operating and Storage Junction Temperature Range	T_J, T_{STG}	-65 to +150	°C
Thermal Resistance			
From Junction to Ambient in Free Air	$R_{th(j-a)}$	200	°C / W

Electrical Characteristics (T_A = 25°C Unless Otherwise Specified)

Parameter	Symbol	Test Condition	Min.	Typ.	Max.	Unit
Collector-Emitter Voltage	V_{CEO} V_{CES}	I_C = 10mA, I_B = 0 I_C = 100mA. I_E = 0	45 50	-	-	V
Emitter-Base Voltage	V_{EBO}	I_E = 10mA, I_C = 0	5	-	-	
Collector-Cut off Current	I_{CBO}	V_{CB} = 20V, I_E = 0 V_{CB} = 20V, I_E = 0, T_J = 150°C	-	-	100 5	nA µA
Emitter Cut off Current	I_{EBO}	V_{EB} = 5V, I_C = 0	-	-	10	µA
Collector Emitter Saturation Voltage	$V_{CE\ (SAT)}$[1]	I_C=500mA, I_B=50mA	-	-	0.7	V
Base Emitter On Voltage	$V_{BE\ (ON)}$[1]	I_C=500mA, V_{CE}=1V	-	-	1.2	
DC Current Gain	h_{FE}*	I_C = 100mA, V_{CE} = 1V Group-10 Group-16 Group-25 Group-40	100 63 100 160 250	-	400 160 250 400 600	-
		I_C=500mA, V_{CE}=1V	40	-	-	

Parameter	Symbol	Test Condition	Min.	Typ.	Max.	Unit
Small Signal Characteristics						
Transistors Frequency	fT	Ic = 10mA, VCE = 5V, f = 35MHz	-	200	-	MHz
Output Capacitance	Cob	VCB = 10V, f = 1MHz	-	5	-	pF

Note:

1. Pulse Condition: Pulse Width ≤300μs, Duty Cycle ≤2%.
2. For PNP device voltage and current values will be negative (-).

Typical Characteristics Curves

Fig 1: Static Characteristic

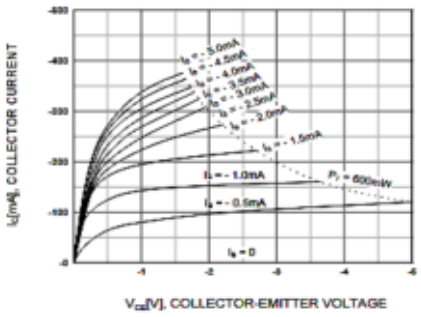


Fig 2: DC current Gain

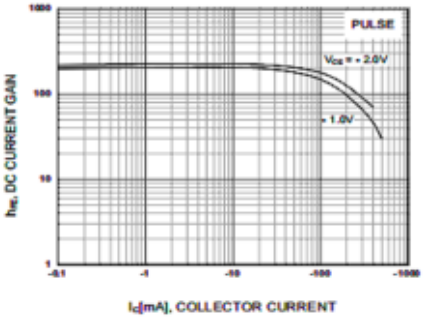


Fig 3: Base-Emitter On Voltage

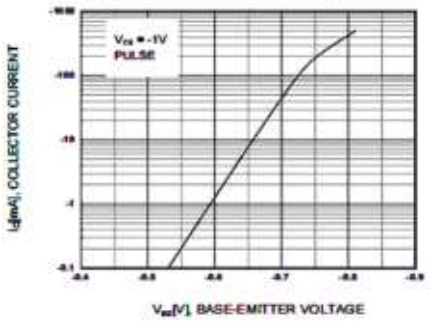


Fig 4: Static Characteristic

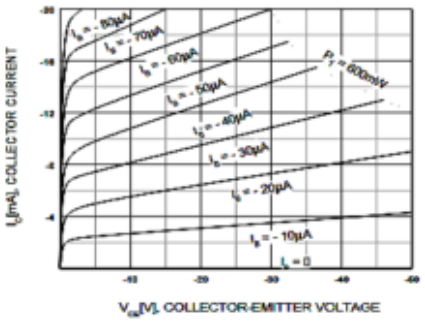


Fig 5: Base-Emitter Saturation Voltage
Collector-Emitter Saturation Voltage

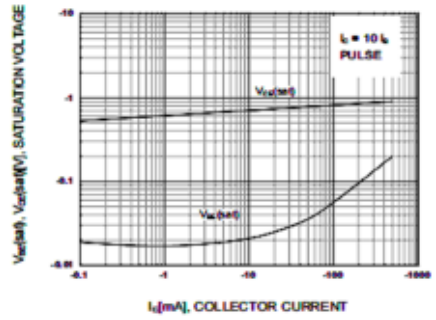


Fig 6: Gain Bandwidth Product

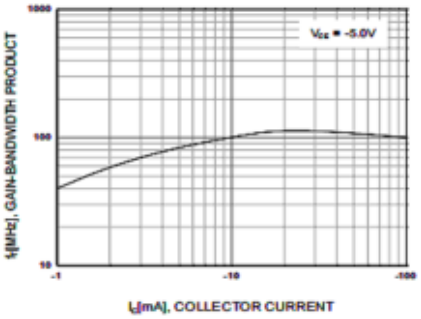
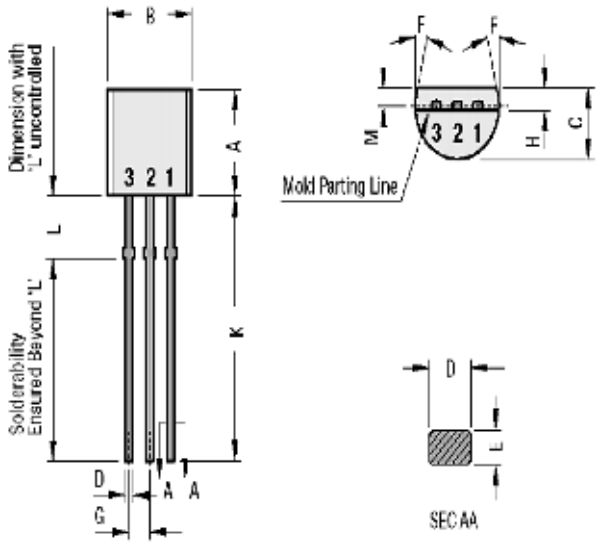


Fig 6: Gain Bandwidth Product

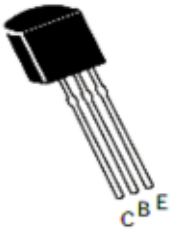
General Purpose Transistor

Diagram

TO-92 Leaded Plastic Package



Dim.	Min.	Max.
A	4.32	5.33
B	4.45	5.2
C	3.18	4.19
D	0.4	0.55
E	0.3	0.55
F	5°	
G	1.14	1.4
H	1.2	1.4
K	12.7	-
L	1.982	2.082
M	1.03	1.2



PIN Configuration

1. Emitter
2. Base
3. Collector

Part Number Table

Description	Part Number
Bipolar (BJT) Single Transistor, NPN, 45V, 100MHz, 500mA,	BC337

Dimensions : Millimetres

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