



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	I_C	800	mA
Peak	I_{CM}	1	A
Emitter Current Peak	I_{EM}	1	A
Base Current Continuous	I_B	100	mA
Base Current Peak	I_{BM}	200	
Power Dissipation at $T_a = 25^\circ\text{C}$	P_{TA}	625	mW
Derate above 25°C		5	mW/ $^\circ\text{C}$
Operating and Storage Junction Temperature Range	T_J, T_{STG}	-65 to +150	$^\circ\text{C}$
Thermal Resistance			
From Junction to Ambient in Free Air	$R_{th(j-a)}$	200	$^\circ\text{C} / \text{W}$

Electrical Characteristics ($T_A = 25^\circ\text{C}$ Unless Otherwise Specified)

Parameter	Symbol	Test Condition	Value	Unit
Collector-Emitter Voltage	V_{CEO} V_{CES}	$I_C = 10\text{mA}, I_B = 0$ $I_C = 100\mu\text{A}, I_E = 0$	>45 >50	V
Emitter-Base Voltage	V_{EBO}	$I_E = 10\mu\text{A}, I_C = 0$	>5	
Collector-Cut off Current	I_{CBO}	$V_{CB} = 20\text{V}, I_E = 0$ $V_{CB} = 20\text{V}, I_E = 0, T_J = 150^\circ\text{C}$	<100 <5	nA μA
Emitter Cut off Current	I_{EBO}	$V_{EB} = 5\text{V}, I_C = 0$	<10	μA
DC Current Gain	h_{FE}^*	$I_C = 100\text{mA}, V_{CE} = 1\text{V}$ Group 16 Group 25	100-600 100-250 160-400	-
Collector Emitter Saturation Voltage	$V_{CE(sat)}^*$	$I_C = 500\text{mA}, I_B = 50\text{mA}$	<0.7	V
Base Emitter on Voltage	$V_{BE(on)}^*$	$I_C = 500\text{mA}, V_{CE} = 1\text{V}$	<1.2	

Parameter	Symbol	Test Condition	Value	Unit
Dynamic Characteristics				
Transistors Frequency	f_T	$I_C = 10\text{mA}$, $V_{CE} = 5\text{V}$, $f = 35\text{MHz}$	200 (Typ.)	MHz
Output Capacitance	C_{ob}	$V_{CB} = 10\text{V}$, $f = 1\text{MHz}$	5 (Typ.)	pF

* Pulse Test : Pulse Width = 300 μ s, Duty Cycle = 2%

Specifications Table

V_{CE0} Maximum (V)	V_{CES} Maximum (V)	I_C (A)	h_{FE} Minimum at $I_C = 100\text{mA}$	F_T Minimum (Typical*) F = 35MHz	P_{tot} (mW)	Package
45	50	0.5	100-600	60	625	TO-92

Part Number Table

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

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