

**PNP Silicon Epitaxial Planar Transistor**

Medium Power Transistors  
for audio and video amplifiers



1. Emitter 2. Collector 3. Base  
TO-92 Plastic Package

**Absolute Maximum Ratings (T<sub>a</sub> = 25 °C)**

Parameter		Symbol	Value	Unit
Collector Base Voltage	BC636	-V <sub>CBO</sub>	45	V
	BC638		60	
	BC640		100	
Collector Emitter Voltage	BC636	-V <sub>CEO</sub>	45	V
	BC638		60	
	BC640		80	
Emitter Base Voltage		-V <sub>EBO</sub>	5	V
Collector Current		-I <sub>C</sub>	1	A
Peak Collector Current		-I <sub>CM</sub>	1.5	A
Base Current		-I <sub>B</sub>	100	mA
Peak Base Current		-I <sub>BM</sub>	200	mA
Power Dissipation		P <sub>tot</sub>	830	mW
Junction Temperature		T <sub>j</sub>	150	°C
Storage Temperature Range		T <sub>stg</sub>	- 65 to + 150	°C

**Characteristics at  $T_a = 25\text{ }^\circ\text{C}$** 

Parameter	Symbol	Min.	Max.	Unit
DC Current Gain at $-V_{CE} = 2\text{ V}$ , $-I_C = 5\text{ mA}$	$h_{FE}$	40	-	-
at $-V_{CE} = 2\text{ V}$ , $-I_C = 150\text{ mA}$	$h_{FE}$	63	160	-
Current Gain Group -10 -16 at $-V_{CE} = 2\text{ V}$ , $-I_C = 500\text{ mA}$	$h_{FE}$	100	250	-
	$h_{FE}$	25	-	-
Collector Base Cutoff Current at $-V_{CB} = 30\text{ V}$	$-I_{CBO}$	-	100	nA
Emitter Base Cutoff Current at $V_{EB} = 5\text{ V}$	$-I_{EBO}$	-	100	nA
Collector Base Breakdown Voltage at $-I_C = 100\text{ }\mu\text{A}$	BC636 BC638 BC640 $-V_{(BR)CBO}$	45 60 100	- - -	V
Collector Emitter Breakdown Voltage at $-I_C = 10\text{ mA}$	BC636 BC638 BC640 $-V_{(BR)CEO}$	45 60 80	- - -	V
Emitter Base Breakdown Voltage at $-I_E = 10\text{ }\mu\text{A}$	$-V_{(BR)EBO}$	5	-	V
Collector Emitter Saturation Voltage at $-I_C = 500\text{ mA}$ , $-I_B = 50\text{ mA}$	$-V_{CE(sat)}$	-	0.5	V
Base Emitter Voltage at $-V_{CE} = 2\text{ V}$ , $-I_C = 500\text{ mA}$	$-V_{BE}$	-	1	V
Gain Bandwidth Product at $-V_{CE} = 5\text{ V}$ , $-I_C = 50\text{ mA}$ , $f = 100\text{ MHz}$	$f_T$	100	-	MHz