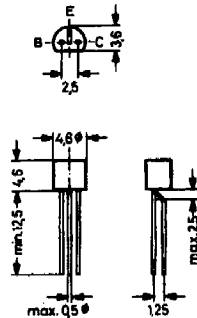


## BF240, BF241

**NPN Silicon Epitaxial Planar Transistors**  
 designed for emitter-grounded AM and FM amplifier stages



Plastic case  $\approx$  JEDEC TO-92  
 TO-18 compatible  
 The case is impervious to light

Weight approximately 0.18 g  
 Dimensions in mm

### Absolute Maximum Ratings

	Symbol	Value	Unit
Collector Base Voltage	$V_{CBO}$	40	V
Collector Emitter Voltage	$V_{CEO}$	40	V
Emitter Base Voltage	$V_{EBO}$	4	V
Collector Current	$I_C$	25	mA
Base Current	$I_B$	2	mA
Power Dissipation at $T_{amb} = 25^\circ\text{C}$	$P_{tot}$	300 <sup>1)</sup>	mW
Junction Temperature	$T_J$	150	$^\circ\text{C}$
Storage Temperature Range	$T_S$	-55 ... +150	$^\circ\text{C}$

<sup>1)</sup> Valid provided that leads are kept at ambient temperature at a distance of 2 mm from case



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**Quality Semi-Conductors**

## BF240, BF241

### Characteristics at $T_{amb} = 25\text{ }^{\circ}\text{C}$

	Symbol	Min.	Typ.	Max.	Value	
DC Current Gain at $V_{CE} = 10\text{ V}$ , $I_C = 1\text{ mA}$	<b>BF240</b> <b>BF241</b>	$h_{FE}$	67	—	220	—
		$h_{FE}$	36	—	125	—
Base Emitter Voltage at $V_{CB} = 10\text{ V}$ , $I_C = 1\text{ mA}$	$V_{BE}$	650	700	740	mV	
Collector Cutoff Current at $V_{CB} = 20\text{ V}$	$I_{CBO}$	—	—	100	nA	
Thermal Resistance Junction to Ambient	$R_{thA}$	—	—	420 <sup>1)</sup>	K/W	
Collector Base Breakdown Voltage at $I_C = 10\text{ }\mu\text{A}$	$V_{(BR)CBO}$	40	—	—	V	
Collector Emitter Breakdown Voltage at $I_C = 2\text{ mA}$	$V_{(BR)CEO}$	40	—	—	V	
Emitter Base Breakdown Voltage at $I_E = 10\text{ }\mu\text{A}$	$V_{(BR)EBO}$	4	—	—	V	
Gain Bandwidth Product at $V_{CB} = 10\text{ V}$ , $I_C = 1\text{ mA}$ , $f = 100\text{ MHz}$	<b>BF240</b> <b>BF241</b>	$f_T$	—	430	—	MHz
		$f_T$	—	400	—	MHz
Feedback Capacitance at $V_{CB} = 10\text{ V}$ , $I_C = 1\text{ mA}$ , $f = 1\text{ MHz}$	$-C_{fe}$	—	0.27	—	pF	
Noise Figure (emitter grounded) at $V_{CB} = 10\text{ V}$ , $I_C = 1\text{ mA}$ $g_s = 5\text{ mS}$ , $f = 200\text{ kHz}$ $y_s = (6.6 - j3.3)\text{ mS}$ , $f = 100\text{ MHz}$		F	—	1.5	3.5	dB
		F	—	1.6	—	dB
Output Admittance at $V_{CB} = 10\text{ V}$ , $I_C = 1\text{ mA}$ , $f = 10.7\text{ MHz}$ at $V_{CB} = 10\text{ V}$ , $I_C = 1\text{ mA}$ , $f = 470\text{ kHz}$		$g_{oe}$	—	—	10.5	$\mu\text{S}$
		$g_{oe}$	—	—	8.3	$\mu\text{S}$
1) Valid provided that leads are kept at ambient temperature at a distance of 2 mm from case						