

## Features

### HIGH FREQUENCY

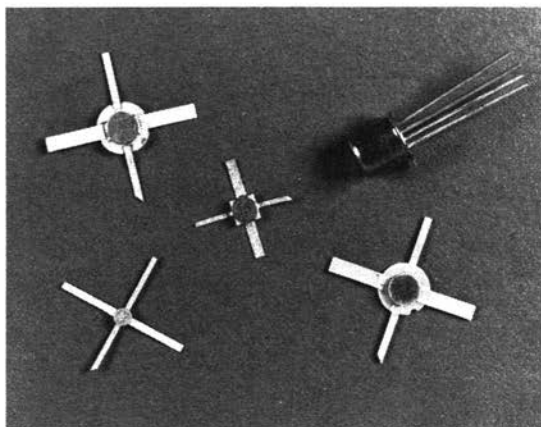
Usable to 6 GHz

### RUGGED HERMETIC PACKAGES

### LOW NOISE FIGURE

2 dB Typical at 2 GHz

### GUARANTEED TUNED GAIN VERSIONS



## Packages

Part Number	Package Outline	Thermal Resistance, $\theta_{JC}$
35821E	HPAC-200	70°C/W
35824A	TO72	375°C/W
35826E	HPAC-100	150°C/W
35827B/E	COAX	[1]
35828E	HPAC-70GT	225°C/W
35829E	HPAC-200A	160°C/W

Note 1. 70°C/W to collector post, 130°C/W to base or emitter ring.

## DC Electrical Specifications at $T_A = 25^\circ\text{C}$

Symbol	Parameter	Test Conditions	Min.	Max.	Units
$I_{CBO1}$	Collector-Base Leakage Current	$V_{CB} = 27\text{ V}$	—	100	$\mu\text{A}$
$I_{CEO}$	Collector-Emitter Leakage Current	$V_{CE} = 20\text{ V}$	—	500	$\mu\text{A}$
$I_{CBO2}$	Collector-Cut-off Current	$V_{CB} = 15\text{ V}$	—	10	$\mu\text{A}$
$h_{FE}$	Forward Current Transfer Ratio	$V_{CE} = 15\text{ V}$ , $I_C = 15\text{ mA}$	15	150	—

## RF Electrical Specifications at $T_A = 25^\circ\text{C}$

Symbol	Parameter	Test Conditions	35821E		35824A	35826E		35827E		35828E		35829E		Units
			Min.	Typ.	Typ.	Min.	Typ.	Min.	Typ.	Min.	Typ.	Min.	Typ.	
$S_{21E}^2$	Transducer Power Gain	Note 1	6.0	7.0	—	6.0	7.0	6.0	7.0	—	—	—	—	dB
$G_A(\text{MAX})$	Maximum Available Gain	Note 1	—	12.0	6.0	—	12.0	—	12.0	—	—	—	—	dB
$G_T$	Tuned Gain	Notes 1,3	—	—	—	—	—	—	—	11.0	13.0	10.0	12.5	dB
$F_{\text{MIN}}$	Minimum Noise Figure	Note 2	—	3.8	—	—	3.8	—	—	—	—	—	—	dB
$P_{1\text{dB}}$	Output Power at 1 dB Compression	Note 1	—	—	—	—	15.0	—	—	—	17.5	—	17.0	dBm

Note 1:  $V_{CE} = 15\text{ V}$ ,  $I_C = 15\text{ mA}$ ,  $f = 2\text{ GHz}$

Note 2:  $V_{CE} = 10\text{ V}$ ,  $I_C = 5\text{ mA}$ ,  $f = 2\text{ GHz}$

Note 3: 35828E measured with  $\Gamma_S = 0.87 \angle -167^\circ$ ,  $\Gamma_L = 0.75 \angle 92^\circ$

35829E measured with  $\Gamma_S = 0.72 \angle -155^\circ$ ,  $\Gamma_L = 0.76 \angle 91^\circ$

## Maximum Ratings at $T_{\text{CASE}} = 25^\circ\text{C}$

$T_J$ - Junction Temperature	175°C	$P_T$ - Total Power Dissipation: [1]	35821E, 35826E, 35827B/E	700 mW		
$T_{\text{STG}}$ - Storage Temperature	-65°C to +200°C					
$V_{CBO}$ - Collector to Base Voltage	27 V				35824A	400 mW
$V_{CEO}$ - Collector to Emitter Voltage	20 V					
$V_{EBO}$ - Emitter to Base Voltage	1.5 V				35828E	600 mW
$I_C$ - DC Collector Current	35 mA	35829E	630 mW			
		Lead Soldering Temperature		250°C, 10 sec		

Note 1. See package table for junction-to-case thermal resistance.

HEWLETT  PACKARD  
COMPONENTS

# GENERAL PURPOSE MICROWAVE TRANSISTORS

35821E  
35824A  
35826E  
35827B/E  
35828E  
35829E

