



NPN BFW16A

HF WIDEBAND TRANSISTORS

The BFW16A is NPN multi-emitter transistor in a TO-39 metal envelope, with the collector connected to the case. The transistor has extremely good intermodulation properties and a high power gain. It is a ruggedized version of the BFW16, which it succeeds.

It is primarily intended for :

- Final and driver stages of channel and band aerial amplifiers with high output power for bands I , II , III , IV , V (40-860 MHz).
 - Final stage of the wideband vertical amplifier in high speed oscilloscopes.
- Compliance to RoHS.

ABSOLUTE MAXIMUM RATINGS

Symbol	Ratings		Value	Unit
V_{CEO}	Collector-Emitter Voltage	$I_B = 0$	25	V
V_{CBOM}	Collector-Base Voltage (open emitter ; peak value)	$I_E = 0$	40	V
V_{EBO}	Emitter-Base Voltage	$I_C = 0$	2	V
V_{CERM}	Collector-Emitter Voltage	$R_{BE} \leq 50\Omega$	40	V
I_C	Collector Current		150	mA
I_{CM}	Collector Peak Current		300	mA
P_t	Total Power Dissipation	@ $T_C = 125^\circ$	1.5	W
T_J	Junction Temperature		200	$^\circ C$
T_{Stg}	Storage Temperature		-65 to +200	$^\circ C$

THERMAL CHARACTERISTICS

Symbol	Ratings		Value	Unit
R_{thJa}	Thermal Resistance, Junction to Ambient		250	K/W
R_{thJmb}	Thermal Resistance, Junction to Mounting Base		50	K/W
$R_{thJmb-h}$	Thermal Resistance, Junction to Mounting Base to heatsink		1.2	K/W



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ELECTRICAL CHARACTERISTICS

TC=25°C unless otherwise noted

Symbol	Ratings	Test Condition(s)	Min	Typ	Max	Unit
I_{CB0}	Collector Cutoff Current	$I_E=0, V_{CB}=20\text{ V}, T_J=150^\circ\text{C}$	-	-	20	μA
h_{FE}	DC Current Gain	$I_C=50\text{ mA}, V_{CE}=5.0\text{ V}$	25	-	-	-
		$I_C=150\text{ mA}, V_{CE}=5.0\text{ V}$	25	-	-	
f_T	Transition frequency	$V_{CE}=15\text{ V}, I_C=150\text{ mA}$ $f=500\text{ MHz}$	-	1.2	-	GHz
C_c	Collector capacitance at $f=1\text{MHz}$	$I_E = I_e = 0, V_{CB}=15\text{ V}$	-	-	4	pF
C_{re}	Feedback capacitance at $f=1\text{MHz}$	$I_C= 10\text{ mA}, V_{CE}=15\text{ V}$ $T_{amb}= 25^\circ\text{C}$	-	1.7	-	
F	Noise figure at $f= 200\text{ MHz}$	$I_C= 30\text{ mA}, V_{CE}=15\text{ V}$ $Z_S= 75\ \Omega, T_{amb}= 25^\circ\text{C}$	-	-	6	dB
G_P	Power gain (not neutralized)	$I_C= 70\text{ mA}$ $V_{CE}=18\text{ V}$ $T_{amb}= 25^\circ\text{C}$	200 MHz	-	16	dB
			800 MHz	-	6.5	

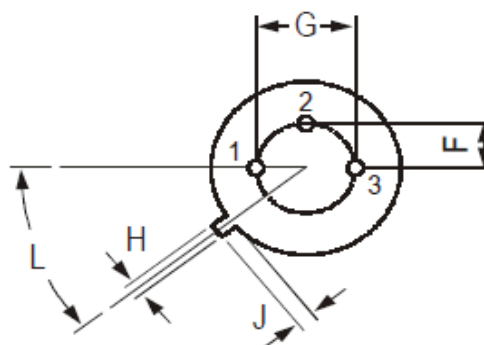
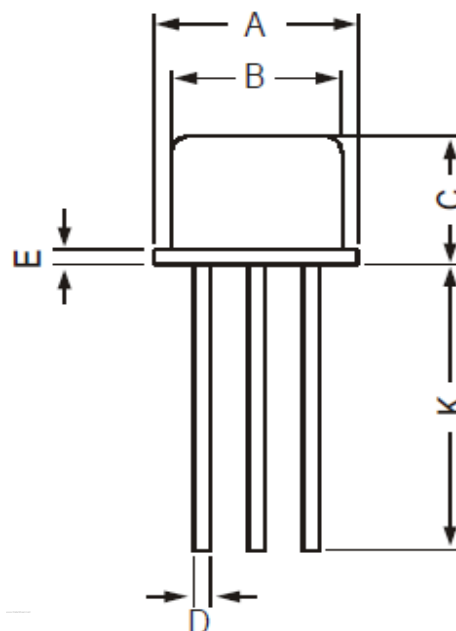


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MECHANICAL DATA CASE TO-39

DIMENSIONS (mm)		
	min	max
A	8.50	9.39
B	7.74	8.50
C	6.09	6.60
D	0.40	0.53
E	-	0.88
F	2.41	2.66
G	4.82	5.33
H	0.71	0.86
J	0.73	1.02
K	12.70	-
L	42°	48°

Pin 1 :	Emitter
Pin 2 :	Base
Pin 3 :	Collector
Case :	Collector



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