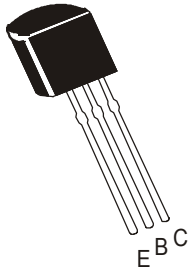


**NPN SILICON PLANAR EPITAXIAL RF TRANSISTORS**

**BF240**

**BF241**



**TO-92**

**Plastic Package**

**A.M.Mixer, IF Amplifiers in AM/ FM Receiver Applications**

**ABSOLUTE MAXIMUM RATINGS(Ta=25°C unless otherwise specified)**

DESCRIPTION	SYMBOL	Value	UNITS
Collector Emitter Voltage	$V_{CEO}$	40	V
Collector Base Voltage	$V_{CBO}$	40	V
Emitter Base Voltage	$V_{EBO}$	4	V
Collector Current Continuous	$I_C$	25	mA
Power Dissipation@ Ta=25°C	$P_D$	350	mW
Dereate Above 25 deg C		2.8	mW/ °C
Power Dissipation@ Tc=25°C	$P_D$	1	W
Dereate Above 25°C		8.0	mW/ °C
Operating and Storage Junction Temperature Range	$T_j, T_{stg}$	-55 to +150	°C

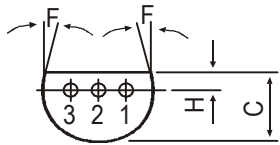
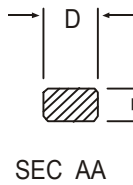
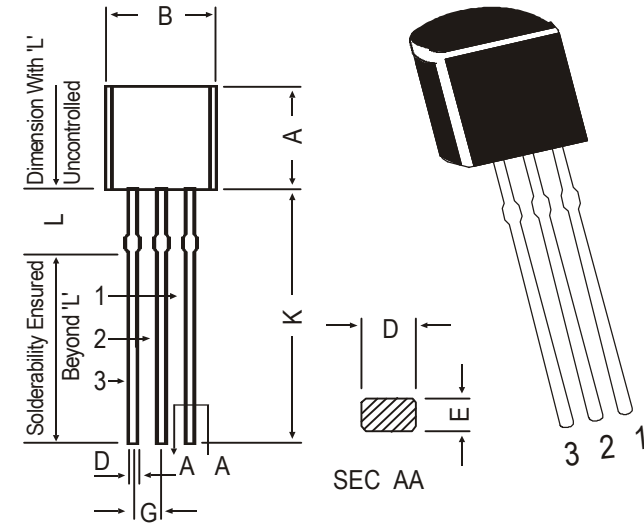
**ELECTRICAL CHARACTERISTICS (Ta=25°C Unless Otherwise Specified)**

DESCRIPTION	SYMBOL	TEST CONDITION	MIN	TYP	MAX	UNITS
Collector Emitter Voltage	$BV_{CEO}$	$I_C=1mA, I_B=0$	40			V
Collector Base Voltage	$BV_{CBO}$	$I_C=100\mu A, I_E=0$	40			V
EmitterBase Voltage	$BV_{EBO}$	$I_E=10\mu A, I_C=0$	4			V
Collector-Cut off Current	$I_{CBO}$	$V_{CB}=20V, I_E=0$			0.1	uA
Base Emitter On Voltage	$V_{BE(on)}$	$I_C=1mA, V_{CE}=10V$	0.65	0.7	0.74	V
DC Current Gain						
	<b>BF240</b>	$h_{FE}, I_C=1mA, V_{CE}=10V$	65		220	
	<b>BF241</b>		35		125	
Transition Frequency						
	<b>BF240</b>	$f_T, I_C=1mA, V_{CE}=10V, f=100MHz$		600		MHz
	<b>BF241</b>			470		MHz
Feedback Capacitance	$C_{re}$	$V_{CB}=10V, I_E=0, f=1MHz$		0.28	0.34	pF

\*Pulse Test: Pulse Width  $\leq 300\mu s$ , Duty Cycle  $\leq 2\%$ .

**TO-92 Plastic Package**

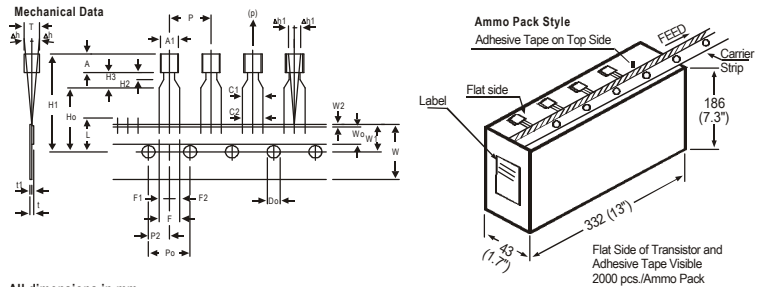
**TO-92 Transistors on Tape and Ammo Pack**



DIM	MIN.	MAX.
A	4.32	5.33
B	4.45	5.20
C	3.18	4.19
D	0.41	0.55
E	0.35	0.50
F	5 DEG	
G	1.14	1.40
H	1.14	1.53
K	12.70	—
L	1.982	2.082

All dimensions in mm.

- PIN CONFIGURATION**
1. COLLECTOR
  2. BASE
  3. EMITTER



All dimensions in mm

ITEM	SYMBOL	SPECIFICATION				REMARKS
		MIN.	NOM.	MAX.	TOL.	
BODY WIDTH	A1	4.0		4.8		
BODY HEIGHT	A	4.8		5.2		
BODY THICKNESS	T	3.9		4.2		
PITCH OF COMPONENT	P		12.7		± 1.0	
FEED HOLE PITCH	Po		12.7		± 0.3	CUMULATIVE PITCH ERROR 1.0 mm/20 PITCH
FEED HOLE CENTRE TO COMPONENT CENTRE	P2		6.35		± 0.4	TO BE MEASURED AT BOTTOM OF CLINCH
DISTANCE BETWEEN OUTER LEADS	F		5.08		+0.6 -0.2	
COMPONENT ALIGNMENT SIDE VIEW	Δh		0	1.0		AT TOP OF BODY
COMPONENT ALIGNMENT FRONT VIEW	Δh1		0	1.3		AT TOP OF BODY
TAPE WIDTH	W		18		± 0.5	
HOLD-DOWN TAPE WIDTH	Wo		6		± 0.2	
HOLE POSITION	W1		9		+0.7 -0.5	
HOLD-DOWN TAPE POSITION	W2		0.5		± 0.2	
LEAD WIRE CLINCH HEIGHT	Ho		16		± 0.5	
COMPONENT HEIGHT	H1		23.25			
LENGTH OF SNIPPED LEADS	L		11.0			
FEED HOLE DIAMETER	Do		4		± 0.2	
TOTAL TAPE THICKNESS	t		1.2			t1 0.3-0.6
LEAD - TO - LEAD DISTANCE	F1, F2		2.54		+0.4 -0.1	
STAND OFF	H2	0.45		1.45		
CLINCH HEIGHT	H3			3.0		
LEAD PARALLELISM	C1 - C2			0.22		
PULL - OUT FORCE	(P)	6N				

**NOTES**

1. Maximum alignment deviation between leads will not be greater than 0.2mm.
2. Maximum non-cumulative variation between tape feed holes shall not exceed 1 mm in 20 pitches.
3. Holddown tape will not exceed beyond the edge(s) of carrier tape and there shall be no exposure of adhesive.
4. There will be no more than three (3) consecutive missing components in a tape.
5. A tape trailer, having at least three feed holes are provided after the last component in a tape.
6. Splices should not interfere with the sprocket feed holes.

**Packing Detail**

PACKAGE	STANDARD PACK		INNER CARTON BOX		OUTER CARTON BOX		
	Details	Net Weight/Qty	Size	Qty	Size	Qty	Gr Wt
TO-92 Bulk	1K/polybag	200 gm/1K pcs	3" x 7.5" x 7.5"	5K	17" x 15" x 13.5"	80K	23 kgs
TO-92 T&A	2K/ammo box	645 gm/2K pcs	12.5" x 8" x 1.8"	2K	17" x 15" x 13.5"	32K	12.5 kgs

### **Disclaimer**

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