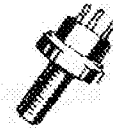


**RF & MICROWAVE TRANSISTORS**  
**VHF-UHF CLASS C WIDE BAND**

- FREQUENCY 130 TO 400MHz
- VOLTAGE 28V
- POWER OUT 2.5 TO 13.5W
- HIGH POWER GAIN
- HIGH EFFICIENCY
- CLASS C TRANSISTORS
- COMMON EMITTER



TO 60 (M137)

**ORDER CODE**

SD1050  
 SD1070  
 SD1075

**BRANDING**

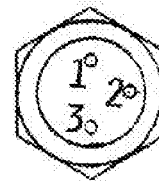
2N3375  
 2N3632  
 2N3733

**DESCRIPTION**

This line of silicon epitaxial NPN planar high frequency transistors employs a multi emitter electrode design. This feature together with a heavily diffused base matrix located between the individual emitters results in high RF current handling capability, high power gain, low base resistance and low output capacitance. These transistors are intended for Class A, B, or C amplifier, oscillator or frequency multiplier circuits and are specifically designed for operation in the VHF-UHF region.

Device	Package
2N3375	TO 60
2N3632	TO 60
2N3733	TO 60

**PIN CONNECTION**



988203375-01

1 emitter  
 2 base

3 collector

**2N3375/2N3632/2N3733**

**ABSOLUTE MAXIMUM RATINGS** ( $T_{case} = 25^{\circ}C$ )

Symbol	Parameter	2N3375	2N3632	2N3733	Unit
$V_{CBO}$	Collector to Base Voltage	65	65	65	V
$V_{CEO}$	Collector to Emitter Voltage	40	40	40	V
$V_{EB0}$	Emitter to Base Voltage	4.0	4.0	4.0	V
$I_{C(max)}$	Continuous Collector Current	1.5	3.0	3.0	A
$P_D$	Total Dissipation at 25°C Stud	31.6	23.0	23.0	W
$T_J$	Junction Temperature	200	200	200	°C
$T_{stg}$	Storage Temperature	- 65 to 150	- 65 to 150	- 65 to 150	°C

		2N3375	2N3632	2N3733	Unit
$R_{\theta(j-c)}$	Junction-case Thermal Resistance	15.0	7.6	7.6	°C

**ELECTRICAL CHARACTERISTICS** ( $T_{case} = 25^{\circ}C$ )

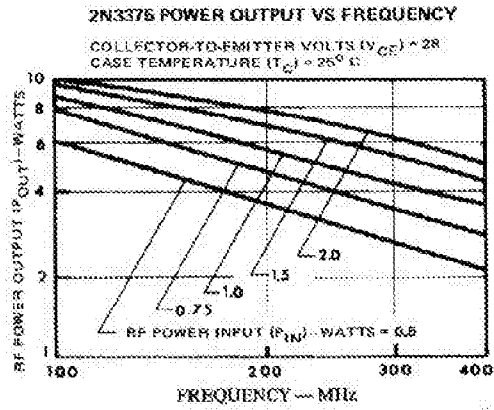
**STATIC**

Symbol	Test Conditions		2N3375			2N3632			2N3733			Unit
			Min.	Typ.	Max.	Min.	Typ.	Max.	Min.	Typ.	Max.	
$BV_{CBO}$	$I_C = 0.5mA$	$V_{BE} = 0$	65			65			65			V
$BV_{CEO}$	$I_C = 200mA$	$I_B = 0$	40			40			40			V
$BV_{EB0}$	$I_C = 0.25mA$	$I_C = 0$	4	( $I_B = 0.1mA$ )		4			4			V
$I_{CEO}$	$V_{CB} = 30V$	$I_B = 0$			0.1			0.25			0.25	mA
$I_{EE}$	$V_{CB} = 5V$	$I_C = 250mA$	10			5	( $I_C = 1A$ )		10			

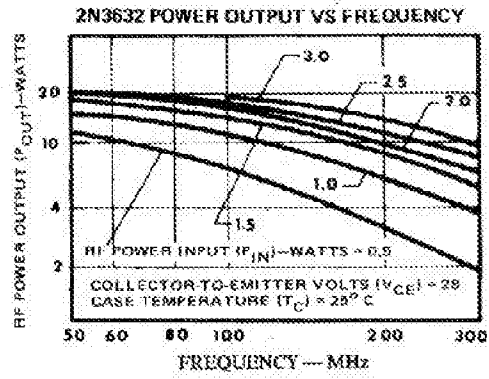
**DYNAMIC**

Symbol	Test Conditions		2N3375			2N3632			2N3733			Unit
			Min.	Typ.	Max.	Min.	Typ.	Max.	Min.	Typ.	Max.	
$P_O$	$F = 175MHz$ Class C	$V_{CE} = 28V$				13.5						W
$P_D$	$F = 400MHz$	$V_{CE} = 28V$	3						10			W
$G_P$	$F = 175MHz$	$V_{CE} = 28V$				5.8						dB
$G_P$	$F = 400MHz$	$V_{CE} = 28V$	4.8						4.0			dB
$\eta_c$	$F = 175MHz$	$V_{CE} = 28V$				70						%
$\eta_c$	$F = 400MHz$	$V_{CE} = 28V$	40						45			%
$C_{ob}$	$F = 1MHz$	$V_{CB} = 30V$			10			20			20	pF

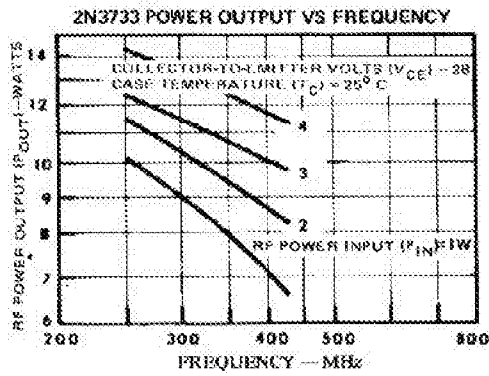
APPLICATION INFORMATION (typical curves)



6882N3375-02



5882N3632-04

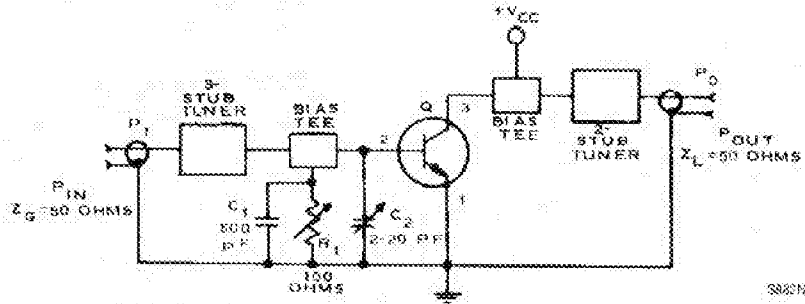


5882N3733-05

2N3375/2N3632/2N3733

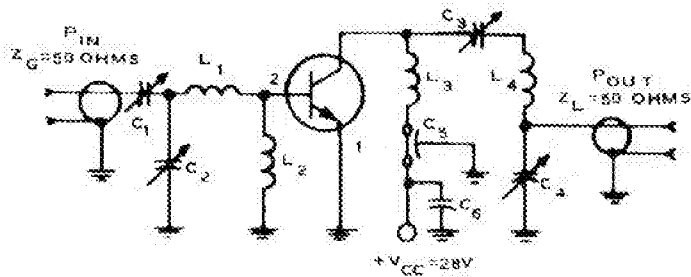
TEST CIRCUITS

2N3375 (400 MHz OPERATION)



582N3375-02

2N3632 (175MHz OPERATION)



582N3632-02

2N3632

C1, C2, C3, C4, C5: 7-100pF

C6: 100pF

C5: 10-01F, disc ceramic

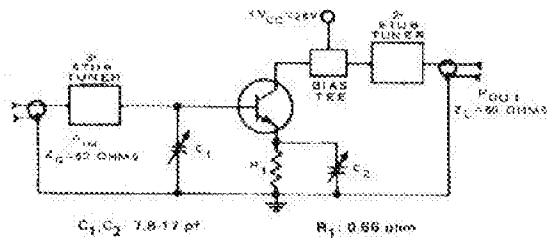
L1: 1.5 turns No. 16 wire, 3/16" ID, 5/16" long

L2: Ferrite choke, Z = 450

L3: 1 turn No. 16 wire, 1/8" ID, 3/8" long

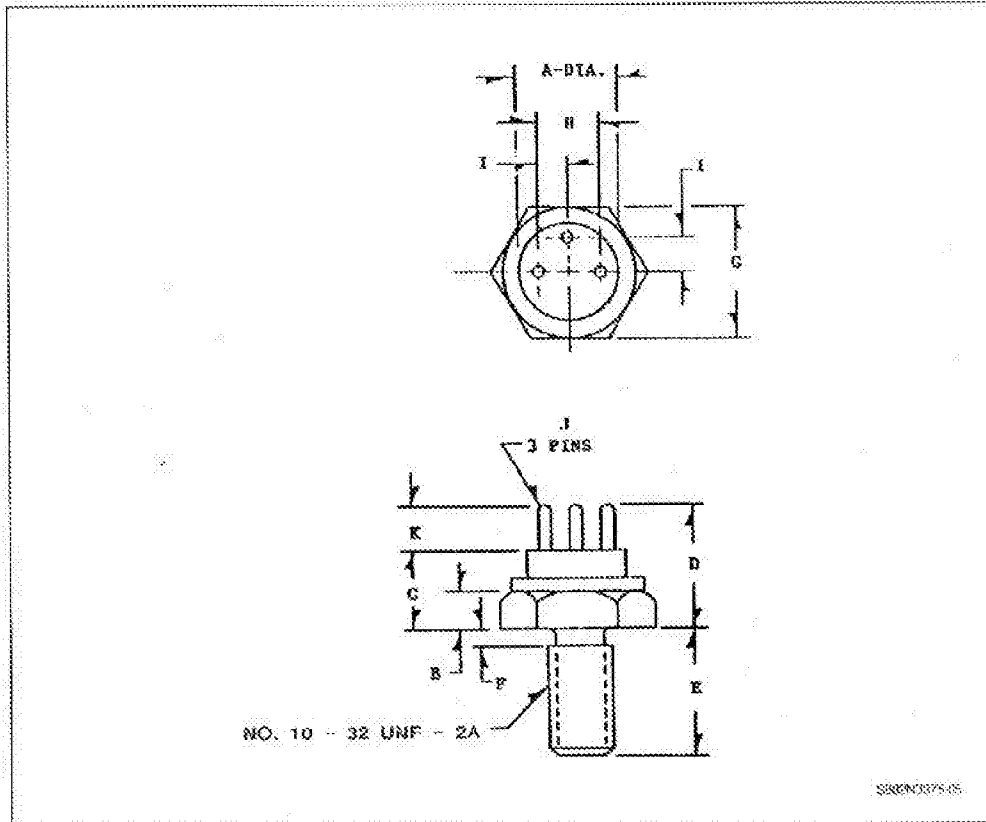
L4: 2 turns No. 16 wire, 1/8" ID, 1/4" long

2N3733(400MHz OPERATION)



582N3733-02

PACKAGE MECHANICAL DATA  
TO 60



	Minimum Inches	Maximum Inches
A	.320	.340
B	.110	.135
C	.245	.300
D	.400	.450
E	.420	.455
E	.140	.160

	Minimum Inches	Maximum Inches
F		.078
G	.420	.440
H	.190	.210
I	.065	.105
J	.030	.048
K	.140	.160