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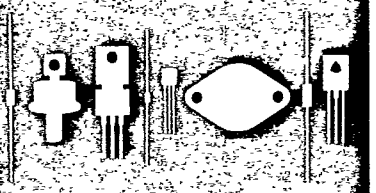
145 Adams Avenue
Hauppauge, New York 11788



GES6014
GES6016

NPN SILICON TRANSISTOR

JEDEC TO-92 CASE

DESCRIPTION

The CENTRAL SEMICONDUCTOR GES6014, GES6016 types are Silicon NPN Transistors manufactured by the epitaxial planar process designed for general purpose medium power amplifier and switching applications. The PNP complementary types are GES6015, GES6017 respectively.

MAXIMUM RATINGS (T_A=25°C unless otherwise noted)

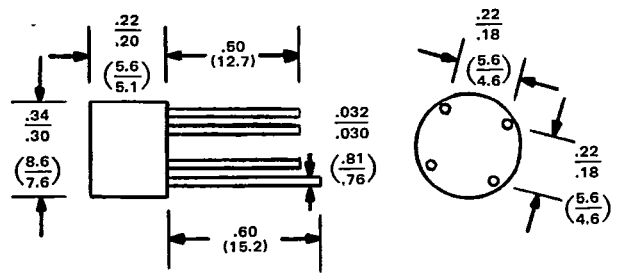
	SYMBOL	GES6014	GES6016	UNIT
Collector-Base Voltage	V_{CBO}	70	70	V
Collector-Emitter Voltage	V_{CES}	70	70	V
Collector-Emitter Voltage	V_{CEO}	60	60	V
Emitter-Base Voltage	V_{EBO}	5.0	5.0	V
Collector Current	I_C	800	800	mA
Collector Current (PEAK)	I_{CM}	1500	1500	mA
Power Dissipation	P_D	625	625	mW
Power Dissipation (T_C=25°C)	P_D	1.0	1.0	W
Operating and Storage Junction Temp.	T_J, T_{stg}	-65 TO +150		°C

ELECTRICAL CHARACTERISTICS (T_A=25°C unless otherwise noted)

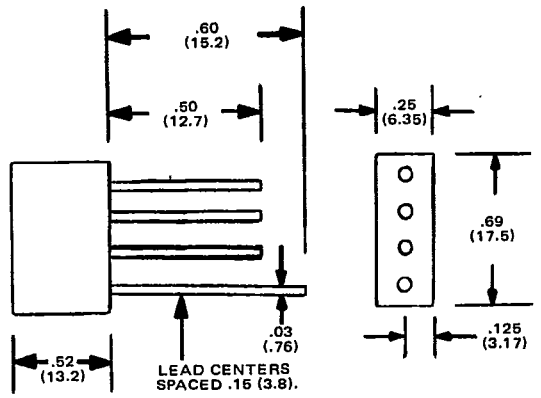
SYMBOL	TEST CONDITIONS	GES6014 MIN	GES6014 MAX	GES6016 MIN	GES6016 MAX	UNIT
I_{CBO}	V_{CB}=25V		10		10	nA
I_{EBO}	V_{EB}=3.0V		20		20	nA
BV_{CBO}	I_C=100μA	70		70		V
BV_{CES}	I_C=100μA	70		70		V
BV_{CEO}	I_C=10mA	60		60		V
BV_{EBO}	I_E=100μA	5.0		5.0		V
$V_{CE(SAT)}$	I_C=100mA, I_B=10mA		0.150		0.150	V
$V_{CE(SAT)}$	I_C=500mA, I_B=50mA		0.500		0.500	V
$V_{BE(SAT)}$	I_C=100mA, I_B=10mA	0.70	0.88	0.70	0.88	V
$V_{BE(SAT)}$	I_C=500mA, I_B=50mA	0.80	1.0	0.80	1.0	V
$V_{BE(ON)}$	V_{CE}=5.0V, I_C=10mA	0.55	0.75	0.55	0.75	V
h_{FE}	V_{CE}=1.0V, I_C=100μA	45		70		
h_{FE}	V_{CE}=1.0V, I_C=10mA	100	300	200	500	
h_{FE}	V_{CE}=1.0V, I_C=100mA	85		170		
h_{FE}	V_{CE}=2.0V, I_C=500mA	20		20		
h_{fe}	V_{CE}=10V, I_E=1.0mA, f=1.0kHz	65	450	130	750	
hie	V_{CE}=10V, I_E=1.0mA, f=1.0kHz	1.5	12	2.5	20	kΩ
hoe	V_{CE}=10V, I_E=1.0mA, f=1.0kHz		45		170	μmos
C_{ob}	V_{CB}=10V, I_E=0, f=1.0MHz		10		10	pF
C_{ib}	V_{EB}=0.5V, I_C=0. f=1.0MHz		50		45	pF
f_T	V_{CE}=10V., I_E=10mA, f=30MHz	105	335	135	425	MHz
NF	V_{CE}=5.0V, I_E=100μA, BW=15.7kHz, Rs=5.0KΩ f=10Hz, to 10kHz		5.0		3.0	dB
t_{on}	V_{CC}=30V, $I_{C(ON)}$=150mA, I_{B1}=15mA, $V_{BE(OFF)}$=0	37TYP		37TYP		ns
t_{OFF}	V_{CC}=30V, $I_{C(ON)}$=150mA, I_{B1}=I_{B2}=15mA	400TYP		400TYP		ns

CASE OUTLINE DRAWINGS

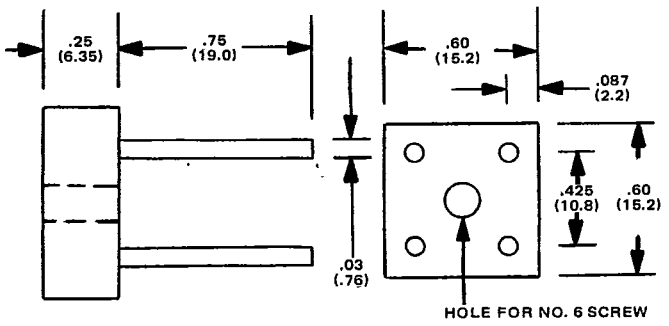
D



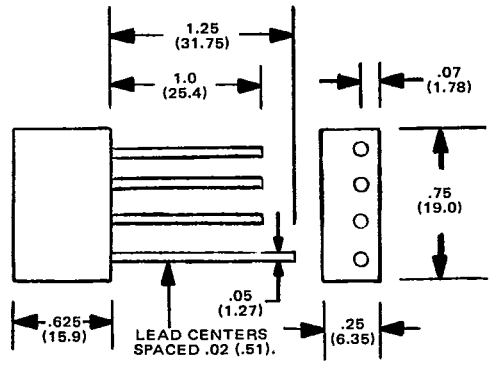
CASE A CBR1 *Series*
CBR2 *Series*



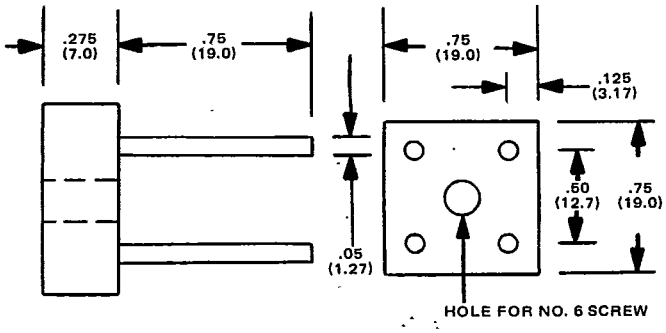
CASE B CBR1-L *Series*
CBR2-L *Series*



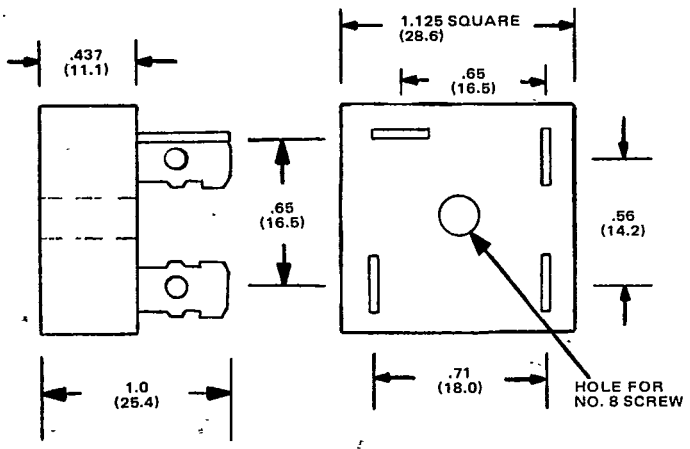
CASE C CBR3-P *Series*



CASE D CBR4-L *Series*



CASE E CBR8 *Series*



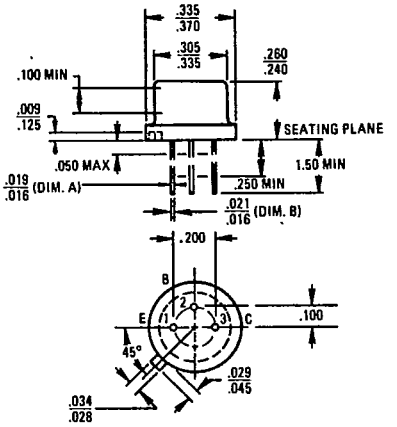
CASE F CBR10 *Series*, CBR25 *Series*
CBR12 *Series*, CBR30 *Series*

All Dimensions in Inches *(Millimeters)*
Drawings Not To Scale

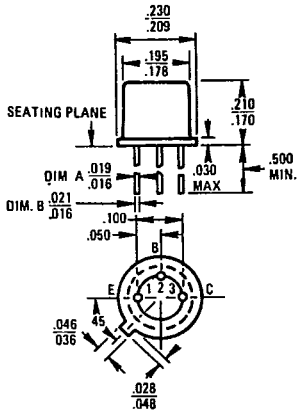
MECHANICAL OUTLINE DRAWINGS

D

TO-5



TO-18



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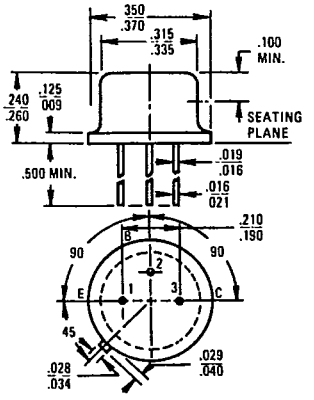

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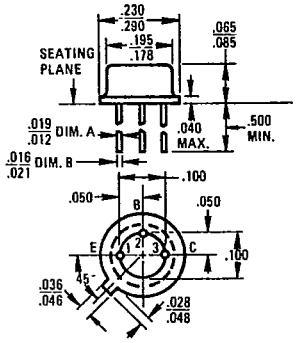

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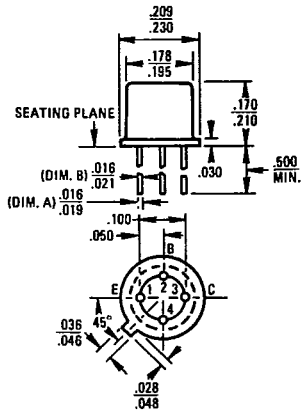
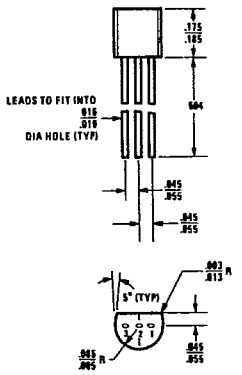
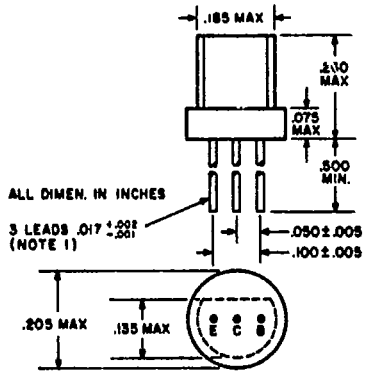


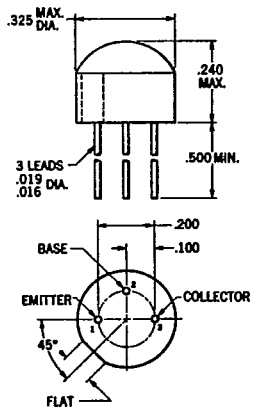
TO-92



TO-98



TO-105



TO-106