

# GERMANIUM SMALL SIGNAL TRANSISTORS

## PRO ELECTRON TYPES

Type	Polar-ity	$V_{CBO}$ V Max	$V_{EBO}$ V Max	$V_{CE}$ V Max		$I_{CBO}$		$h_{FE}$		$C_{ob}$ pf Max	fab MHZ Min	Pack Outline	Power Dissipation @25°C MW
						@ $V_{CB}$ V	$\mu A$ Max	Min	Max				
ACY33	P	32	10	32		10	10	75-250	300	100	1.0	TO-1	1,000
ACY34	P	30	10	10		30	12	20-40	1 <sup>1</sup>	40	1.0 <sup>2</sup>	TO-1	200
ACY35	P	30	10	10		30	12	30-75	1 <sup>1</sup>	40	1.0 <sup>2</sup>	TO-1	200
ACY36	P	32	10	16		30	12	30-90	80	40	1.0 <sup>2</sup>	TO-1	200
ACY38	P	15	9					75-	1 <sup>1</sup>		5.0	TO-5	150
ACY39	P	110	12	40		6	10	50-150	300	40	1.0 <sup>1</sup>	TO-5	260
ACY40	P	32	12	18		6	10	30-70	300	40	1.0 <sup>1</sup>	TO-5	260
ACY41	P	32	12	18		6	10	50-250	300	40	1.0 <sup>1</sup>	TO-5	260
ACY44	P	50	12	30		6	10	40-120	300	40	1.0 <sup>1</sup>	TO-5	260
ASY26	P	30	20	15		30	7	30-80	20	16	4.0	TO-5	150
ASY27	P	25	20	15		25	7	50-150	20	16	6.0	TO-5	150
ASY28	N	30	20	15		5	3.0	30-80	20	16	4.0	TO-5	150
ASY29	N	25	20	15		5	3.0	50-150	20	16	10.0	TO-5	150
ASY48	P	64	16	45				30-150	100	40	1.2 <sup>2</sup>	TO-1	900
ASY70	P	32	16	30				30-150	100	40	1.5 <sup>2</sup>	TO-1	900
ASY76	P	40	10	32		10	10	25-130	300	60	0.5	TO-5	300
ASY77	P	60	10	60		10	10	25-130	300	60	0.5	TO-5	300
ASY80	P	40	20	40		10	10	60-165	50	60	0.7	TO-5	300
ASY81	P	60	25	35		60	15	30-100	100	25	2.0	TO-5	200
OC65	P	10	10	10		4.5	12	30-	4	40	1.0 <sup>1</sup>	TO-1	25
OC66	P	10	10	10		4.5	12	50-	4	40	1.0 <sup>1</sup>	TO-1	25
OC70	P	30	10	10		4.5	13	20-40	0.5 <sup>1</sup>	40	1.0 <sup>1</sup>	TO-1	125
OC71	P	30	10	10		4.5	13	41-	1.0 <sup>1</sup>	40	1.0 <sup>1</sup>	TO-1	125
OC72	P	32	10	16		10	10	45-120	10	40	1.0 <sup>1</sup>	TO-1	125
OC73	P	32	20	16		4.5	6	30-65	0.5 <sup>1</sup>	40	1.0 <sup>1</sup>	TO-1	125
OC74	P	20	5			9	20	60-150	50	40	1.0 <sup>1</sup>	TO-1	220
OC75	P	30	10	10		4.5	14	60-130	3 <sup>1</sup>	40	1.0 <sup>1</sup>	TO-1	125
OC76	P	32	10	16		10	10	45-	10	40	1.0 <sup>1</sup>	TO-1	125
OC77	P	60	10	15		10	10	45-	10	40	1.0 <sup>1</sup>	TO-1	125
OC78	P	20	10			10	10	20-	125	40	1.0 <sup>1</sup>	TO-1	200
OC81N	P	32	10			10	10	50-250	50	40	1.0 <sup>1</sup>	TO-1	200
OC83N	P	32	10	20		10	10	40-200	300	40	1.0 <sup>1</sup>	TO-1	220
OC84N	P	32	10	20		10	10	50-160	300	40	1.0 <sup>1</sup>	TO-1	220

<sup>1</sup>hfe<sup>2</sup>typical

Type		$V_{CBO}$ V Max	$V_{EBO}$ V Max	$V_{CE}$ V Max		@ $V_{CB}$ V	$I_{CBO}$ $\mu A$ Max	$h_{FE}$ Typical	@ $I_c$ mA	$C_{ob}$ pf Max	fab MHZ Min	Pack Outline	Power Dissipation @25°C MW
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## PNP LOW POWER

2N217		35	12	25		10	10	50-	1 <sup>1</sup>	60	1 <sup>2</sup>	TO-1	165
2N408		20	2.5	18		20	14	65-	50			TO-1	150
2N484		12				12	10	90-	1 <sup>1</sup>	12 <sup>2</sup>	10	TO-5	150
2N519		15	10	15		0.5	2.0	25-	1 <sup>1</sup>	14 <sup>2</sup>	0.5	TO-5	100
2N520		15	10	12		0.5	2.0	40-	1 <sup>1</sup>	14 <sup>2</sup>	3.0	TO-5	100
2N520A		25	10	15		0.5	2.0	40-	1 <sup>1</sup>	14 <sup>2</sup>	3.0	TO-5	150
2N522A		25	10	10		0.5	2.0	100-	1 <sup>1</sup>	14 <sup>2</sup>	15.0	TO-5	150
2N1187		65	30	45		10	10	50-	1 <sup>1</sup>		1.0	TO-5	200
2N1188		60	30	45		10	10	100-	1 <sup>1</sup>		1.2	TO-5	200
2N1729		25	20	15		3	6	30-	100	20		TO-5	150
2N1731		30	25	30		3	6	40-	10	20	5.0	TO-5	150

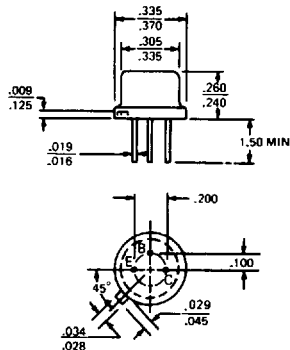
Type		$V_{CBO}$ V Max	$V_{EBO}$ V Max	$V_{CE}$ V Max		@ $V_{CB}$ V	$I_{CBO}$ $\mu A$ Max	$h_{FE}$ Typical	@ $I_c$ mA	$C_{ob}$ pf Max	fab MHZ Min	Pack Outline	Power Dissipation @25°C MW
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## NPN LOW POWER

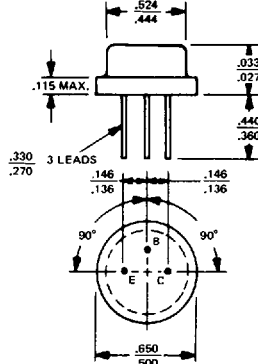
2N166		6				6	5	32	1.0				
2N167		30	50	30		30	1.5		1.0	4.0 <sup>1</sup>	8.0	OV17	65
2N169A		25	25	25		25	5			2.4 <sup>1</sup>	5.0	OV17	55
2N356		20	20	18		20	5	30	1.0	14 <sup>1</sup>	3.0	TO-5	100

## CASE OUTLINE DRAWINGS & DIMENSIONS

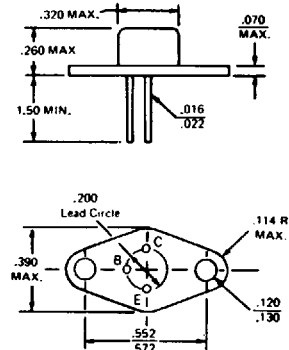
**TO-5**



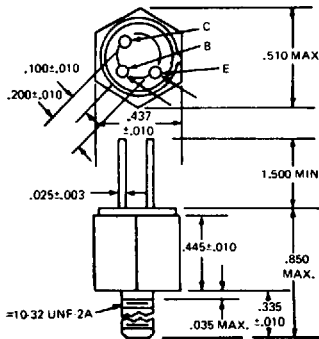
**TO-8**



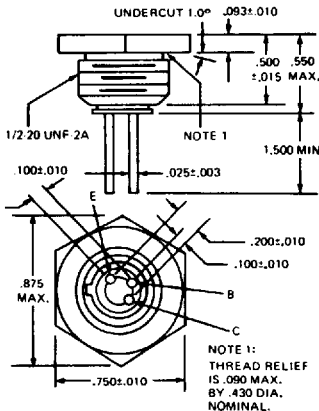
**TO-37**



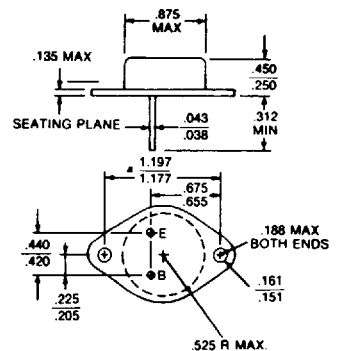
**MT-27**



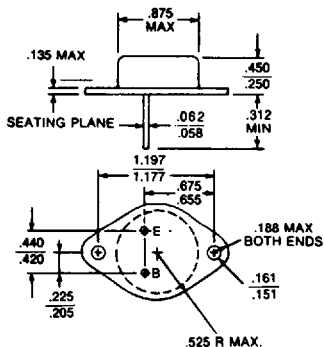
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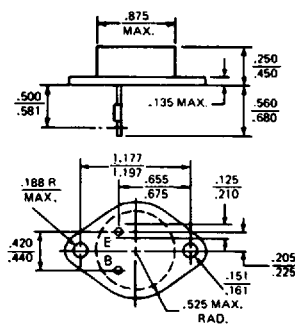
**TO-3**



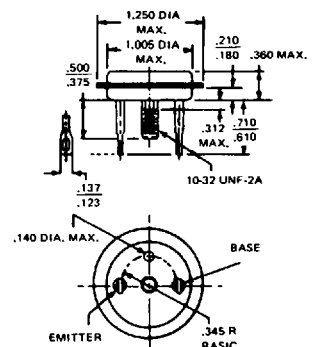
**MODIFIED TO-3  
(60 mil pins)**



**TO-41**



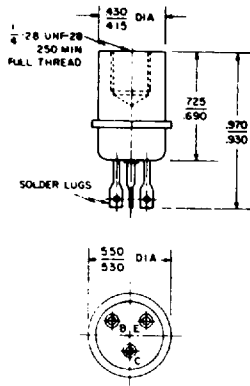
**TO-36**



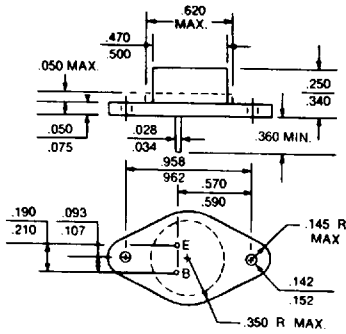
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## CASE OUTLINE DRAWINGS & DIMENSIONS

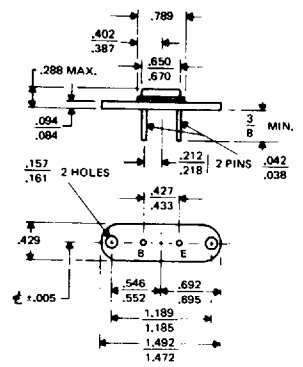
TO-13



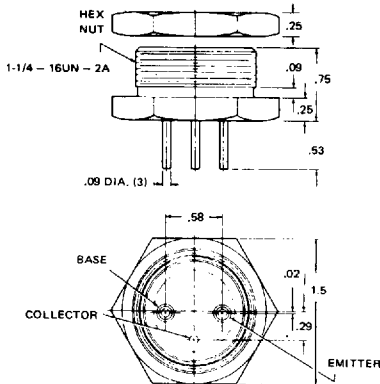
TO-66



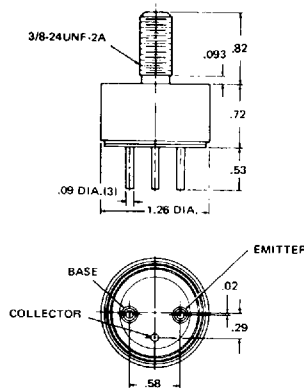
MS-7



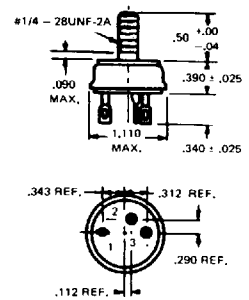
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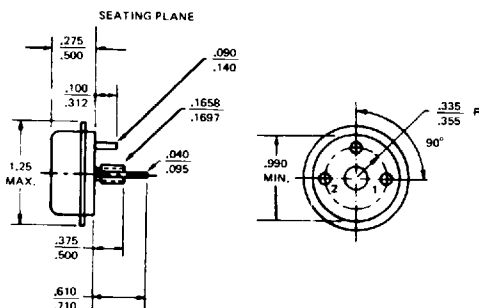
MT-23



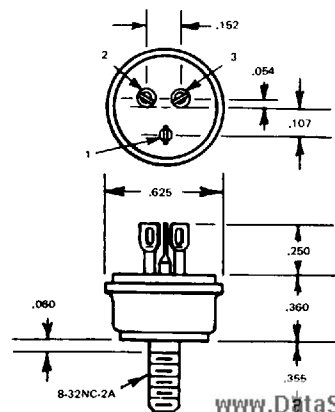
MT-7



TO-68



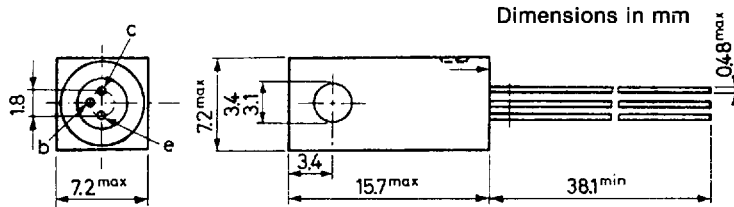
MT-36



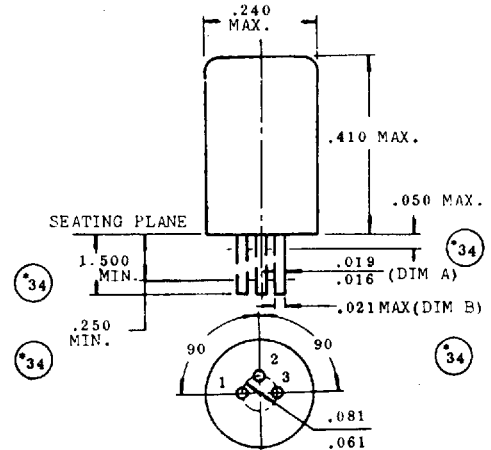
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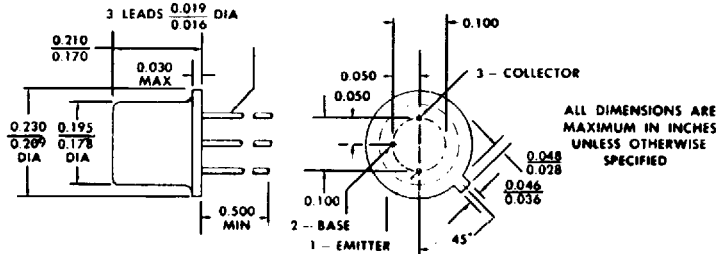
NS257



TO-1



TO-18



THE COLLECTOR IS ELECTRICAL CONTACT WITH THE CASE.

ALL JEDEC TO-18 DIMENSIONS AND NOTES ARE APPLICABLE.