

For Low Current, Low Voltage Applications

Part Number	TEST f (GHz)	NF/GA		NF TYP (dB)	GA TYP (dB)	MAG / MSG			f _t TYP (GHz)	h _{FE} TYP	I _c MAX (mA)	Package Number / Style
		V _{CE} (V)	I _{CQ} (mA)			V _{CE} (V)	I _c (mA)	TYP (dB)				

4 Pin Super Mini Mold

NE68018	1.0	1	1	1.5	12.0	1.0	1	12.5	10.0	100	35	18 Package SOT-343 Style Surface Mount
NE68118	1.0	2.5	3	1.1	13.0	2.5	3	16.0	9.0	100	65	
NE68518	2.0	2.5	3	1.5	8.5	2.5	3	12.0	12.0	110	30	
NE68618	2.0	1	3	1.5	9	1	3	13	15	100	10	
NE68718	2.0	1	3	1.3	8	1	3	11	13	100	30	
NE85618	1.0	2.5	3	1.4	11.0	2.5	3	14.0	6.5	120	100	

3 Pin Ultra Super Mini Mold

NE68019	1.0	1	1	1.3	10.0	1.0	1	12.0	8.0	120	35	19 Package SC-90 Style Surface Mount
NE68119	1.0	2.5	3	1.1	12.0	2.5	3	15.5	7.0	120	65	
NE68519	2.0	2.5	3	1.5	7.5	2.5	3	11.0	12.0	110	30	
NE68619	2.0	1	3	1.5	8.5	1	3	12.5	12	100	10	
NE68719	2.0	1	3	1.3	7.5	1	3	10	9	100	30	
NE68819	2.0	3	3	1.6	7	3	3	9	9.5	120	100	
NE85619	1.0	2.5	3	1.5	10.0	2.5	3	13.5	4.5	120	100	
NESG204619	2.0	1	3	0.8	11.0	-	-	-	18	180	40	
NESG210719	2.0	1	5	0.9	9.0	-	-	-	10	180	100	

3 Pin Super Mini Mold

NE68030	2.0	6	5	1.7	9.5	6	10	8.5	10.0	100	35	30 Package SOT-323 Style Surface Mount
NE68130	1.0	8	7	1.5	13.5	8	20	13.0	7.0	120	65	
NE68530	2.0	2.5	3	1.5	8.0	2.5	3	10.0	12.0	110	30	
NE68830	2.0	3	7	1.5	7.5	3	3	7.5	9	120	100	
NE85630	1.0	10	7	1.3	12.0	10	20	12.0	4.5	110	100	

3 Pin Mini Mold

NE68033	2.0	6	5	1.8	9.0	6	10	8.0	10.0	100	35	33 Package SOT-23 Style Surface Mount
NE68133	1.0	8	7	1.2	13.0	8	20	11.0	9.0	100	65	
NE68533	2.0	2.5	3	1.5	7.5	2.5	3	11.0	12.0	110	30	
NE68833	2.0	3	7	1.5	7.5	3	3	7.5	8.5	120	100	
NE85633	1.0	10	7	1.4	9.0	10	20	11.5	7.0	120	100	
NE97733	1.0	-8	-3	1.5	10.0	-8	-20	12.0	8.5	60	-50	
NE97833	1.0	-10	-3	2.0	7.0	-10	-15	10.0	5.5	40	-50	

4 Pin Mini Mold

NE68039	2.0	6	5	1.7	11.0	6	10	9.0	10.0	100	35	39 Package SOT-143 Style Surface Mount
NE68139	1.0	8	7	1.2	13.5	8	20	15.0	9.0	100	65	
NE68539	2.0	2.5	3	1.5	7.5	2.5	3	11.5	12.0	110	30	
NE85639	1.0	10	7	1.5	13.5	10	20	13.0	7.0	120	100	

4 Pin Mini Mold

NE68039R	1.0	2.5	1	1.2	11.5	2.5	1	13.5	10.0	100	35	39R Package SOT-143R Style Surface Mount
NE68139R	1.0	2.5	3	1.1	12.5	2.5	3	15.5	9.0	100	65	
NE85639R	1.0	2.5	3	1.3	10.5	2.5	3	13.0	7.0	120	100	

Ultra-thin and Super Mini Mold Packages

Part Number	TEST f (GHz)	V _{CE} (V)	I _{CQ} (mA)	NF TYP (dB)	G _A TYP (dB)	V _{CE} (V)	I _C (mA)	MAG TYP (dB)	f _r TYP (GHz)	h _{FE} TYP	I _C MAX (mA)	Package Number / Style
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3 Pin "Thin" Ultra Super Mini Mold

NE681M03	1.0	2.5	3	1.0	13	2.5	3	16	7.0	110	65	M03 Thin SC-90 Style Surface Mount
NE685M03	2.0	2.5	3	1.4	8	2.5	3	12	12.0	100	30	
NE687M03	2.0	1	3	1.3	8	1	3	11	12.0	95	30	
NE856M03	1.0	2.5	3	1.4	11	2.5	3	14	4.5	110	100	

4 Pin "Thin" SOT-343

NE661M04	2	2	2	1.2	16	2	10	22	22	100	10	M04 & M05 Thin SOT-343 Style Surface Mount
NE662M04	2	2	5	1.1	16	2	20	20	23	70	35	
NE663M04	2	2	10	1.2	10	2	50	15	18	100	100	
NESG2030M04	2	2	5	0.9	16	2	20	20	60	300	35	
NESG2021M05	2	2	3	0.9	18.0	3	10	22.5	-	195	35	
NESG2021M05	5.2	2	3	1.3	11.0	-	-	-	-	195	35	
NESG2031M05	2	2	5	0.8	17.0	3	20	21.5	-	195	35	
NESG2031M05	5.2	2	5	1.3	10.0	-	-	-	-	195	35	
NESG3031M05	5.2	2	6	0.95	10.0	-	-	-	-	300	35	
NESG3031M05	5.8	2	6	1.1	9.5	3	20	14.0	-	300	35	

Data at other bias conditions available upon request. (As low as 0.5 V, 0.5 mA)

Ultra-Miniature Surface Mount Bipolar Transistors

Part Number	TEST f (GHz)	V _{CE} (V)	I _{CQ} (mA)	NF TYP (dB)	G _A TYP (dB)	V _{CE} (V)	I _C (mA)	MAG TYP (dB)	f _r TYP (GHz)	h _{FE} TYP	I _C MAX (mA)	Package Number / Style
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4 Pin M14 Package with recessed leads for smaller footprint

NESG3031M14	5.2	2	6	0.95	10.0	-	-	-	-	300	35	M14 Surface Mount
NESG3031M14	5.8	2	6	1.1	9.5	3	20	15.0	-	300	35	

Ultra-Miniature Surface Mount Bipolar Transistors

Part Number	TEST f (GHz)	NF/IS ₂₁ EL ²		NF TYP (dB)	IS ₂₁ EL ² TYP (dB)	f _r TYP (GHz)	H _{FE} TYP	I _C MAX (mA)	Package Number / Style
		V _{CE} (V)	I _C (mA)						

3 Pin M03 Package with recessed leads for smaller footprint

NE851M03	2	1	10 / 15	1.9	5.5	6.5	120	100	M03 Surface Mount
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3 Pin M13 Package with recessed leads for smaller footprint

NE681M13	1	3	7	1.4	12	7	110	65	M13 3 Pin 1.0 x 0.5 mm Surface Mount
NE685M13	2	3	3 / 10	1.5	8.5	12	100	30	
NE687M13	2	2	3 / 20	1.5	10	11	95	30	
NE851M13	2	1	10 / 15	1.9	5.5	6.5	120	100	
NE894M13	2	1	5 / 20	1.4	13	20	80	35	

3 Pin M33 Package with recessed leads for smaller footprint

NE685M33	2	3	3 / 10	1.5	11	12	110	30	M33 3 Pin 0.8 x 0.4 mm Surface Mount
NE687M33	2	1	3 / 10	1.5	9	12	110	30	
NE851M33	2	1	10 / 15	1.9	5.5	6.5	120	100	
NESG2046M33	2.0	1	3	0.8	13	18	180	40	
NESG2107M33	2.0	1	5	0.9	9	10	180	100	

Ultra-Miniature Surface Mount Bipolar Transistors (Continued)

Part Number	TEST f (GHz)	NF/IS _{21E} I ²		NF TYP (dB)	IS _{21E} I ² TYP (dB)	f _T TYP (GHz)	H _{FE} TYP	I _C MAX (mA)	Package Number / Style
		V _{CE} (V)	I _C (mA)						

6 Pin M16 Package with recessed leads for smaller footprint

NE662M16	2	2	5 / 20	1.1	17	25	70	35	M16 6 Pin 1.2 x 0.8 mm Surface Mount
NESG2021M16	2	2	5 / 20	0.8	18	25	190	35	
NESG2031M16	2	2 / 3	3 / 10	0.9	19	25	190	35	
NESG2101M16	2	2 / 3	7 / 50	0.9	13.5	17	190	100	

Medium Power Devices

Part Number	TEST f (GHz)	P _{1dB}				MAG / MSG			f _T TYP (GHz)	H _{FE} TYP	I _C MAX (mA)	Pkg. No.	Package / Chip Style
		V _{CE} (V)	I _{CQ} (mA)	PIN (dBm)	TYP (dBm)	V _{CE} (V)	I _C (mA)	TYP (dB)					
NE46100	2.0	12.5	100	19	27	10	100	9.8	5.5	100	250	00	Chip
NE663M04	2.0	2	50	5	16	2	50	15	18	100	100	M04	M04 SOT-343 Style
NE664M04	1.8	3.6	200	15	26	3	100	12	20	60	500	M04	
NE677M04	1.8	2.8	23	1	15	3	20	16	15	120	50	M04	
NE678M04	1.8	2.8	40	7	18	3	30	13.5	12	120	100	M04	
NE46134	1.0	12.5	100	20.5	27.5	10	50	9	5.5	100	250	34	34 Package SOT-89 Style
NE85634	1.0	10	40	13	22	10	40	11	6.5	120	100	34	
NESG250134	0.5	3.6	30	15	29	3.6	100	23	10	120	500	34	
NESG250134	0.9	3.6	30	20	29	-	-	-	10	120	500	34	
NE461M02	1.0	12.5	100	19	27.5	10	50	11	5.5	120	250	M02	M02 Package SOT-89 Style
NE856M02	1.0	10	40	10	22	10	50	14	6.5	120	100	M02	
NESG2101M05	2.0	3.6	10	7	21	3	50	17	-	195	100	M05	M05 SOT-343 Style
UPA901TU	5.8	3.6	90	-3	19	3.6	52	25	-	120	300	TU	TU 8 Pin Lead-less Minimold
NESG260234	0.5	6.0	30	15	30	6	100	23	10	120	600	34	34 Package SOT-89 Style
NESG260234	0.9	6.0	30	20	30	-	-	-	10	120	600	34	

Devices For Cordless Phones

Part Number	Frequency Range	P _{1dB} (dBm)	Linear Gain (dB)	Collector Efficiency (%)	V _{CE} (V)	Test Frequency (MHz)	Package Number
NE68939	500-2000	24.5	8	62	3.6	1900	39
NE69039	500-2000	27.5	6	72	3.6	1900	39

Bipolar Oscillator Transistors

Part Number	Posc				f _T TYP (GHz)	H _{FE} TYP	I _C MAX (mA)	Pkg. No.	Package / Chip Style
	f (GHz)	V _{CE} (V)	I _C (mA)	TYP (W)					
NE58219	0.9	5.0	5.0	0.001	5.0	90	60	19	Surface Mount Plastic

Bipolar Switching Transistors

Part Number	C _{CB} V _{CB} (V)	C _{CB} TYP (pF)	f _T TYP (GHz)	Typical Switching Times						IS _{21E} I ²				H _{FE} TYP	I _C MAX (mA)	Pkg. No.	Package Description
				V _{CE} (V)	I _C (mA)	T _{d(ON)} (ns)	T _r (ns)	T _{d(OFF)} (ns)	T _f (ns)	f (GHz)	V _{CE} (V)	I _C (mA)	TYP (dB)				
NE68100	10	0.2	9.0	8	15	0.3	-	0.2	-	2.0	8	20	11.0	100	65	00	Chip
NE68118	10	.25	9.0	8	15	0.4		0.3		1.0	8	20	15.0	100	65	18	Surface Mount Plastic
NE68119	3	.45	7.0	8	15	0.6		0.5		1.0	3	7	12.0	100	65	19	
NE68133	10	.35	9.0	8	15	0.4	-	0.3	-	1.0	8	20	13.0	100	65	33	SOT-23

Twin Transistors

Part Number	TEST f (GHz)	NF/G _A V _{CE} (V)	NF/G _A I _C (mA)	NF TYP (dB)	G _A TYP (dB)	MAG (dB)	IS ₂₁ EI ²			f _T TYP (GHz)	h _{FE} TYP	I _C MAX (mA)	Pkg. No.	Package Style	Die
							V _{CE} (V)	I _C (mA)	TYP (dB)						

Twin Transistors in a single package — Matched Die

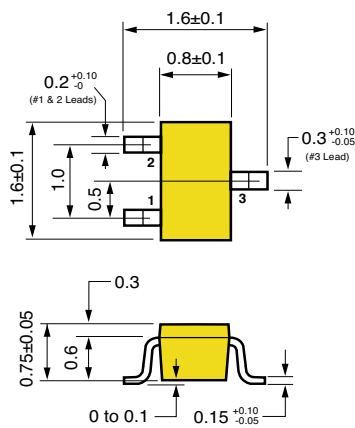
UPA800T	2.0	3	5	1.9	9.0	12.0	3	5	7.5	8.0	120	35	S06	SOT-363	NE680
UPA801T	1.0	3	7	1.2	10.0	14.0	3	7	9.0	4.5	120	100	S06	SOT-363	NE856
UPA802T	1.0	3	7	1.4	14.0	16.0	3	7	12.0	7.0	100	65	S06	SOT-363	NE681
UPA806T	2.0	3	3	1.5	7.5	11.0	3	10	8.5	12.0	110	30	S06	SOT-363	NE685
UPA807T	2.0	2	3	1.5	10.0	13.5	2	7	9.0	13.0	100	10	S06	SOT-363	NE686
UPA808T	2.0	2	3	1.3	8.0	11.0	2	20	8.5	11.0	100	30	S06	SOT-363	NE687
UPA810T	1.0	3	7	1.2	10.0	14.0	3	7	9.0	4.5	120	100	S06	SOT-363	NE856
UPA811T	2.0	3	5	1.9	9.0	12.0	3	5	7.5	8.0	120	35	S06	SOT-363	NE680
UPA812T	1.0	3	7	1.4	14.0	16.0	3	7	12.0	7.0	100	65	S06	SOT-363	NE681
UPA895TD	2.0	1	10	1.9	9.0	10.0	1	15	5.5	5	120	100	TD	L ² mm Leadless-Minimold	NE851

Twin Transistors in a single package — Mixed Die

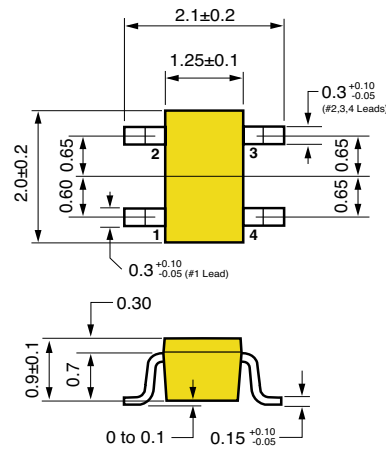
UPA861TD (Q1)	2.0	1	3	1.5	9.0	11.0	1	10	9.0	12	105	30	TD	L ² mm	NE687
(Q2)	2.0	1	5	1.4	12.5	13.5	1	20	13	20	75	35		Leadless Minimold	NE894
UPA862TD (Q1)	2.0	3	3	1.5	9.5	12.5	3	10	8.5	12	110	30	TD	L ² mm	NE685
(Q2)	2.0	1	10	1.9	9.0	10.0	1	15	5.5	5	120	100		Leadless Minimold	NE851

Chips

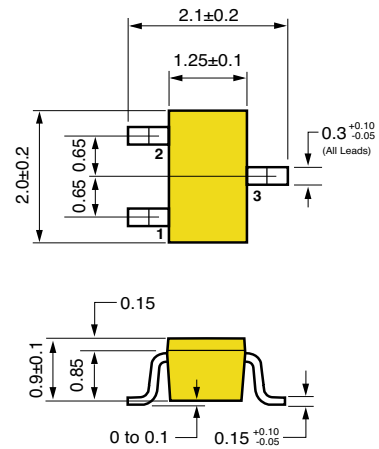
NE68000	4.0	6	5	2.6	8.0	12.5	6	10	9.0	10.0	100	35	00	Chip	-
NE68100	2.0	8	7	1.6	12.0	19	8	20	14.0	9.0	100	65	00	Chip	-
NE85600	2.0	10	7	2.1	10.0	16	10	20	9.0	7.0	120	100	00	Chip	-



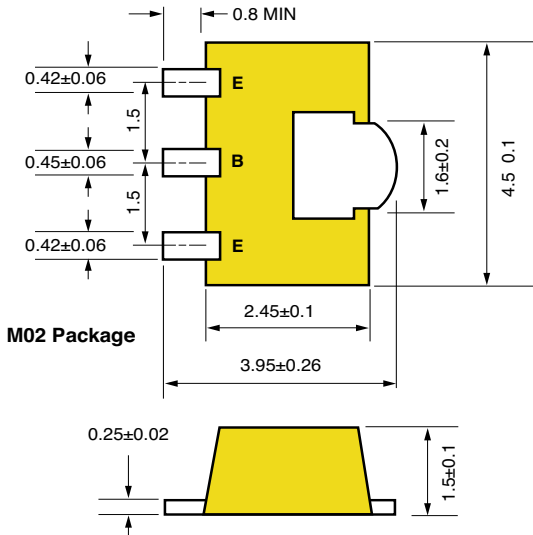
19 Package



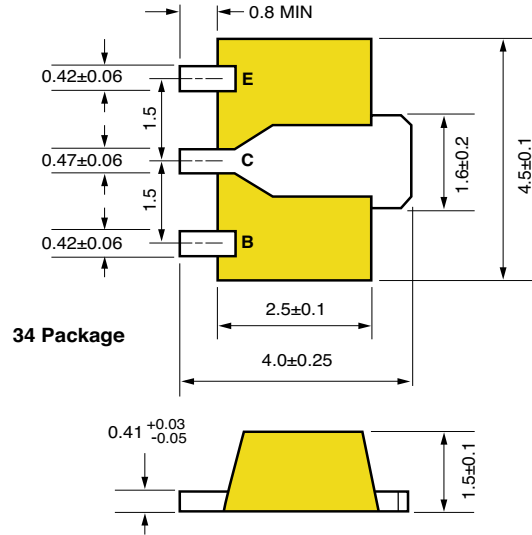
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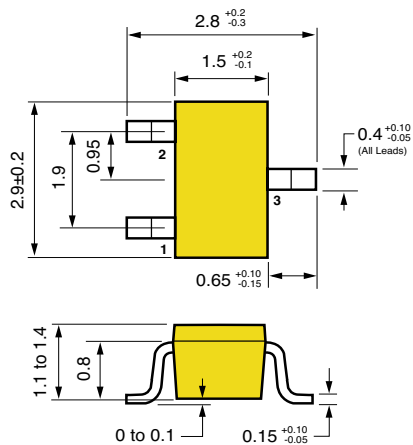
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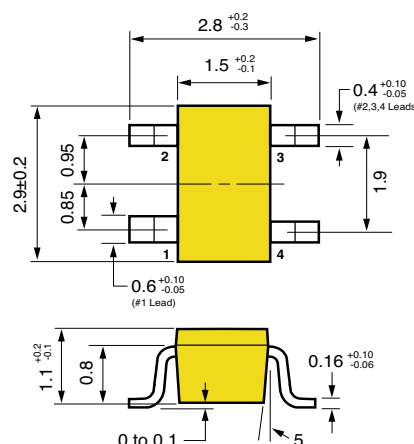
M02 Package



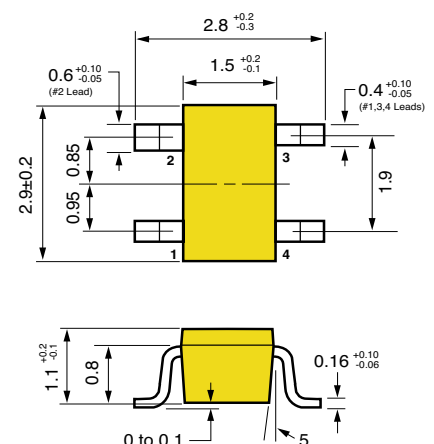
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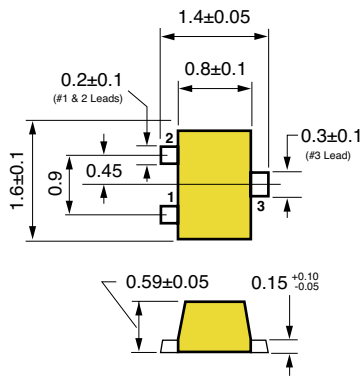
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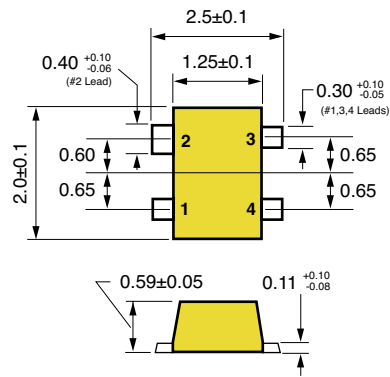
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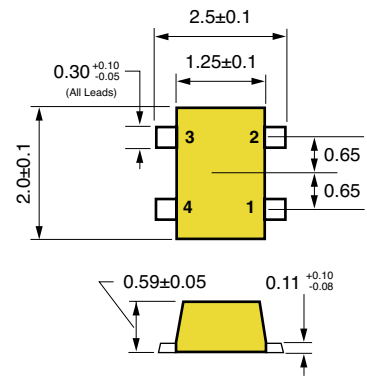
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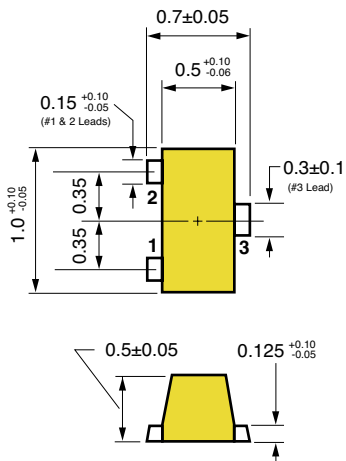
M03 Package



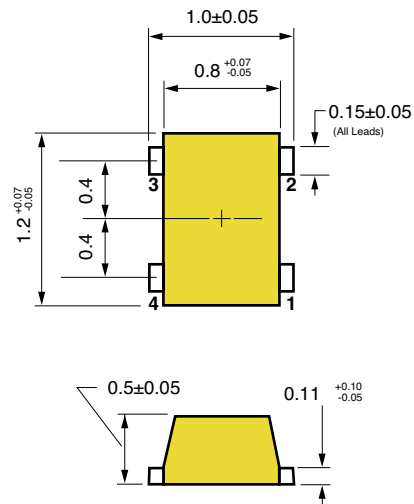
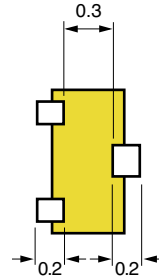
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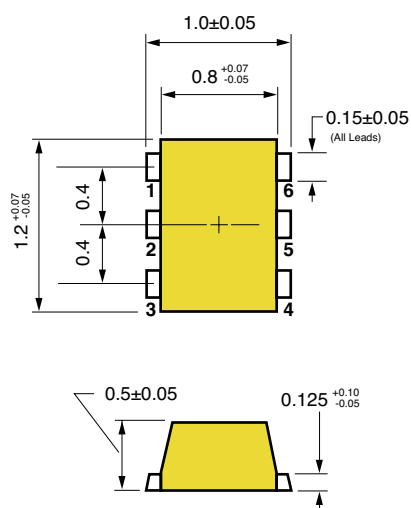
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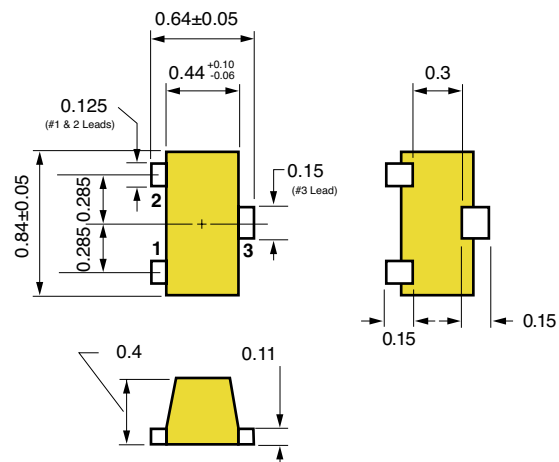
M13 Package



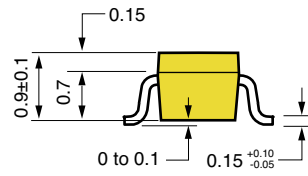
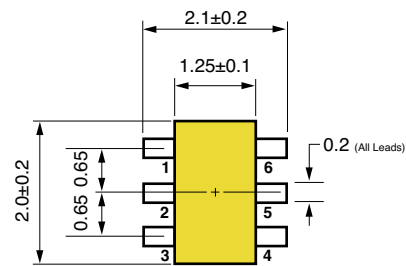
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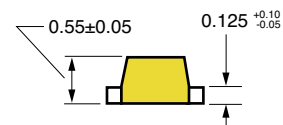
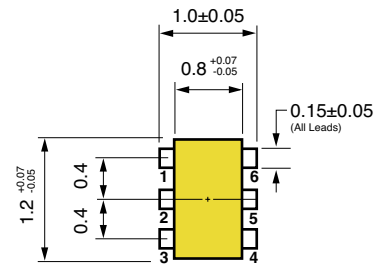
M16 Package



M33 Package



T/ S06 Package



TD Package

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