6 Lake Street, Lawrence, MA 01841
1-800-446-1158 / (978) 620-2600 / Fax: (978) 689-0803
Website: http: //www.microsemi.com

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ELECTRICAL CHARACTERISTICS ***(T_A = +25°C, unless otherwise noted) (CONT.)***

Parameters / Test Conditions		Symbol	Min.	Max.	Unit
ON CHARACTERTICS (2)					
Forward-Current Transfer Ratio					
I_C = 10µAdc, V_{CE} = 5.0Vdc	2N2604, UB	h_{FE}	40	120	
	2N2605, UB		100	300	
I_C = 500µAdc, V_{CE} = 5.0Vdc	2N2604, UB		60	180	
	2N2605, UB		150	450	
I_C = 10mAdc, V_{CE} = 5.0Vdc	2N2604, UB		40	160	
	2N2605, UB		100	400	
I_C = 10mAdc, V_{CE} = 5.0Vdc, T_A = -55°C	2N2604, UB		15		
	2N2605, UB		30		
Collector-Emitter Saturation Voltage I_C = 10mAdc, I_B = 500µAdc		$V_{CE(sat)}$		0.3	Vdc
Base-Emitter Saturation Voltage I_C = 10mA, I_B = 500µAdc		$V_{BE(sat)}$	0.7	0.9	Vdc

DYNAMIC CHARACTERISTICS

Parameters / Test Conditions		Symbol	Min.	Max.	Unit
Small-Signal Short-Circuit Input Impedance I_C = 1.0mAdc, V_{CB} = 5.0Vdc, f = 1.0kHz	2N2604, UB	h_{ie}	1.0	10	kΩ
	2N2605, UB		2.0	20	
Small-Signal Open-Circuit Forward Current Output Admittance I_C = 1.0mAdc, V_{CE} = 5.0Vdc, f = 1.0kHz	2N2604, UB	h_{oe}		40	µmhos
	2N2605, UB			60	
Small-Signal Short-Circuit Forward Current Transfer Ratio I_C = 1.0mAdc, V_{CE} = 5.0Vdc, f = 1.0kHz	2N2604, UB	h_{fe}	60	180	
	2N2605, UB		150	450	
Magnitude of Small-Signal Forward Current Transfer Ratio I_C = 0.5mAdc, V_{CE} = 5.0Vdc, f = 30MHz		$\|h_{fe}\|$	1.0	8.0	
Output Capacitance V_{CB} = 5.0Vdc, I_E = 0, 100 kHz ≤ f ≤ 1.0MHz		C_{obo}		6.0	pF
Noise Figure					
V_{CE} = 5.0Vdc, I_C = 10µAdc, R_g = 10kΩ, f = 100Hz		F_1		5.0	dB
V_{CE} = 5.0Vdc, I_C = 10µAdc, R_g = 10kΩ, f = 1.0kHz		F_2		3.0	
V_{CE} = 5.0Vdc, I_C = 10µAdc, R_g = 10kΩ, f = 10kHz		F_3		3.0	

(2) Pulse Test: Pulse Width = 300µs, Duty Cycle ≤ 2.0%

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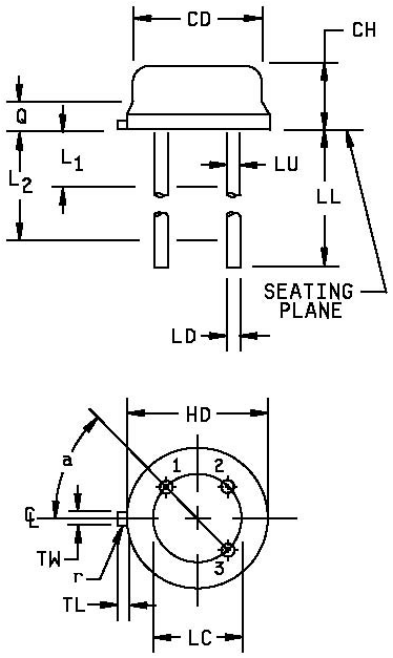
PACKAGE DIMENSIONS



Symbol	Dimensions				Note
	Inches		Millimeters		
	Min	Max	Min	Max	
CD	.178	.195	4.52	4.95	
CH	.065	.085	1.65	2.16	
HD	.209	.230	5.31	5.84	
LC	.100 TP		2.54 TP		5
LD	.016	.021	0.41	0.53	6
LL	.500	1.750	12.70	44.45	6
LU	.016	.019	0.41	0.48	6
L_1		.050		1.27	6
L_2	.250		6.35		6
Q		.040		1.02	4
TL	.028	.048	0.71	1.22	3, 8
TW	.036	.046	0.91	1.17	3, 8
r		.010		0.25	9
α	45° TP		45° TP		5

NOTES:

1. Dimensions are in inches. Lead 1 is emitter, lead 2 is base, and lead 3 is collector.
2. Millimeters are given for general information only.
3. Symbol TL is measured from HD maximum.
4. Details of outline in this zone are optional.
5. Leads at gauge plane .054 +.001 -.000 inch (1.37 +0.03 -0.00 mm) below seating plane shall be within .007 inch (0.18 mm) radius of true position (TP) at maximum material condition (MMC) relative to tab at MMC. The device may be measured by direct methods or by the gauge and gauging procedure.
6. Symbol LU applies between L1 and L2. Dimension LD applies between L2 and LL minimum.
7. Lead number three is electrically connected to case.
8. Beyond r maximum, TW shall be held for a minimum length of .011 inch (0.28 mm).
9. Symbol r applied to both inside corners of tab.
10. In accordance with ASME Y14.5M, diameters are equivalent to φx symbology.

FIGURE 1. Physical dimensions - (TO-46).

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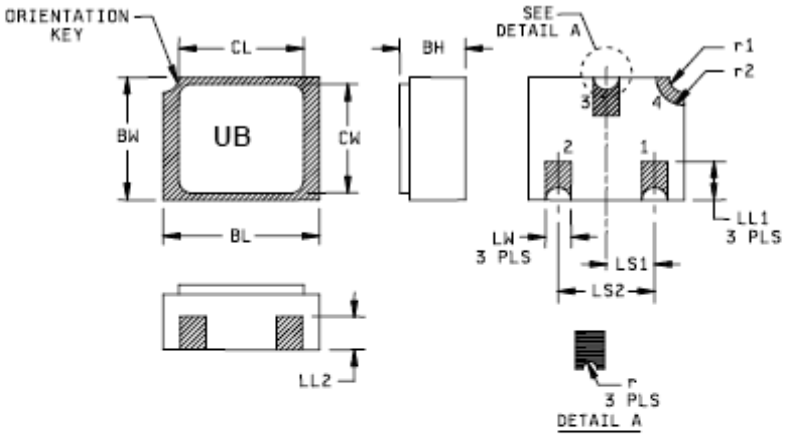
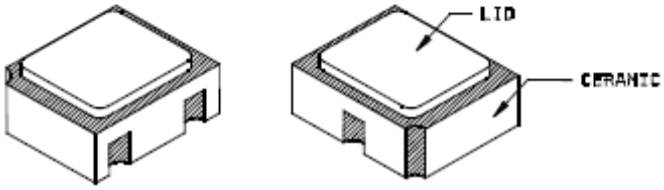
PACKAGE DIMENSIONS





Symbol	Dimensions				Notes
	Inches		Millimeters		
	Min	Max	Min	Max	
BH	.046	.056	1.17	1.42	
BL	.115	.128	2.92	3.25	
BW	.085	.108	2.16	2.74	
CL		.128		3.25	
CW		.108		2.74	
LL_1	.022	.038	0.56	0.97	
LL_2	.017	.035	0.43	0.89	

Symbol	Dimensions				Notes
	Inches		Millimeters		
	Min	Max	Min	Max	
LS_1	.035	.039	0.89	0.99	
LS_2	.071	.079	1.80	2.01	
LW	.016	.024	0.41	0.61	
r		.008		0.20	
r_1		.012		0.31	
r_2		.022		0.56	

NOTES:

1. Dimensions are in inches.
2. Millimeters are given for general information only.
3. Hatched areas on package denote metallized areas
4. Pad 1 = Base, Pad 2 = Emitter, Pad 3 = Collector, Pad 4 = Shielding connected to the lid.
5. In accordance with ASME Y14.5M, diameters are equivalent to φx symbology.

FIGURE 2. Physical dimensions, surface mount (UB version).