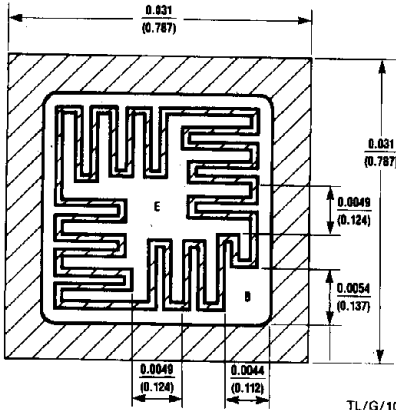


Bipolar Pro Electron Series (Continued)

Type No.	Case Style	V _{CE} * V _{CE0} (V) Min	V _{CE0} (V) Min	V _{EB0} (V) Min	I _{CE} * I _{CB0} (mA) Max	V _{CB} (V) Max	f _{re} 1 kHz* Min	f _{re} Max	I _C (mA) Min	V _{CE} (V) Max	V _{CE(SAT)} (V) Max	V _{BE(SAT)} V _{BE(ON)*} (V) Min	I _C (mA) Max	C _{ob} (pF) Max	f _T (MHz) Min	f _T (MHz) Max	I _C (mA) Max	t _{off} (ns) Max	NF (dB) Max	Test Conditions	Process No.
BD371A-10	TO-237 (91)	80	45	45	100	45	25	63	500	2	0.7	1.2*	1A	30	50	420	200	420	6	(Notes 5 & 6)	38
BD371A-16	TO-237 (91)	80	45	45	100	45	25	100	500	2	0.7	1.2*	1A	30	50	420	200	420	6	(Notes 5 & 6)	38
BD371A-25	TO-237 (91)	80	45	45	100	45	25	180	500	2	0.7	1.2*	1A	30	50	420	200	420	6	(Notes 5 & 6)	38
BD371B	TO-237 (91)	80	60	60	100	60	25	400	500	2	0.7	1.2*	1A	30	50	420	200	420	6	(Notes 5 & 6)	38
BD371B-10	TO-237 (91)	80	60	60	100	60	25	63	500	2	0.7	1.2*	1A	30	50	420	200	420	6	(Notes 5 & 6)	38
BD371B-16	TO-237 (91)	80	60	60	100	60	25	100	500	2	0.7	1.2*	1A	30	50	420	200	420	6	(Notes 5 & 6)	38
BD371B-25	TO-237 (91)	80	60	60	100	60	25	160	500	2	0.7	1.2*	1A	30	50	420	200	420	6	(Notes 5 & 6)	38
BD371C	TO-237 (91)	80	80	80	100	80	25	400	500	2	0.7	1.2*	1A	30	50	420	200	420	6	(Notes 5 & 6)	38
BD371C-6	TO-237 (91)	80	80	80	100	80	25	40	500	2	0.7	1.2*	1A	30	50	420	200	420	6	(Notes 5 & 6)	38
BD371C-10	TO-237 (91)	80	80	80	100	80	25	63	500	2	0.7	1.2*	1A	30	50	420	200	420	6	(Notes 5 & 6)	38
BD371C-16	TO-237 (91)	80	80	80	100	80	25	100	500	2	0.7	1.2*	1A	30	50	420	200	420	6	(Notes 5 & 6)	38
BD371D	TO-237 (91)	80	100	100	100	100	25	400	500	2	0.7	1.2*	1A	30	50	420	200	420	6	(Notes 5 & 6)	39
BD371D-6	TO-237 (91)	80	100	100	100	100	25	40	500	2	0.7	1.2*	1A	30	50	420	200	420	6	(Notes 5 & 6)	39
BD371D-10	TO-237 (91)	80	100	100	100	100	25	63	500	2	0.7	1.2*	1A	30	50	420	200	420	6	(Notes 5 & 6)	39
BD372A	TO-237 (90)	80	45	45	100	45	25	40	500	2	0.7	1.2*	1A	30	50	420	200	420	6	(Notes 5 & 6)	78



TL/G/10037-14

DESCRIPTION

Process 38 is a double-diffused, silicon epitaxial planar device. Complement to Process 78.

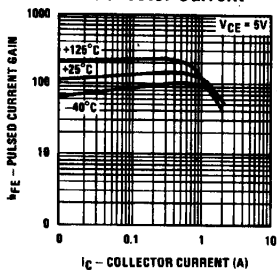
APPLICATION

This device was designed for general purpose medium power amplifiers and switching circuits that require collector currents to 1.5A.

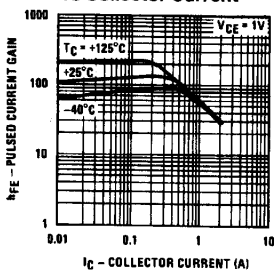
PRINCIPAL DEVICE TYPES
TO-202 EBC: D40D1-6, NSDU05
TO-237 EBC: 2N6715, 92PU05
TO-92 EBC: PN6715
TO-226 EBC: MPS6715
ELECTRICAL CHARACTERISTICS ($T_A = 25^\circ\text{C}$)

Symbol	Conditions	Min	Typ	Max	Units
BV_{CEO}	$I_C = 10 \text{ mA}$	40			V
BV_{CBO}	$I_C = 100 \mu\text{A}$	65			V
BV_{EBO}	$I_E = 10 \mu\text{A}$	5			V
I_{CBO}	$V_{CB} = 40\text{V}$			100	nA
I_{EBO}	$V_{EB} = 4\text{V}$			100	nA
h_{FE}	$I_C = 1 \text{ mA}, V_{CE} = 1\text{V}$ $I_C = 100 \text{ mA}, V_{CE} = 1\text{V}$ $I_C = 1 \text{ A}, V_{CE} = 1\text{V}$	40 60 20	160	360	
$V_{CE(SAT)}$	$I_C = 500 \text{ mA}, I_B = 50 \text{ mA}$			0.5	V
$V_{BE(SAT)}$	$I_C = 500 \text{ mA}, I_B = 50 \text{ mA}$			1.25	V
f_T	$I_C = 100 \text{ mA}, V_{CE} = 10\text{V}$	125	250		MHz
C_{ob}	$V_{CB} = 10\text{V}, f = 1 \text{ MHz}$		14	18	pF
$P_{D(max)}$					
TO-202	$T_C = 25^\circ\text{C}$	10			W
TO-226	$T_A = 25^\circ\text{C}$ $T_C = 25^\circ\text{C}$	2			W
TO-237	$T_A = 25^\circ\text{C}$ $T_C = 25^\circ\text{C}$	1			W
TO-92	$T_A = 25^\circ\text{C}$ $T_C = 25^\circ\text{C}$	2 850 600			W mW mW
θ_{JC}					
TO-202	$T_C = 25^\circ\text{C}$			12.5	$^\circ\text{C/W}$
TO-237	$T_C = 25^\circ\text{C}$			62.5	$^\circ\text{C/W}$
θ_{JA}					
TO-202	$T_A = 25^\circ\text{C}$			62.5	$^\circ\text{C/W}$
TO-226	$T_A = 25^\circ\text{C}$			125	$^\circ\text{C/W}$
TO-237	$T_A = 25^\circ\text{C}$			147	$^\circ\text{C/W}$
TO-92	$T_A = 25^\circ\text{C}$			208	$^\circ\text{C/W}$
$T_J(max)$	All Plastic Parts	150			$^\circ\text{C}$

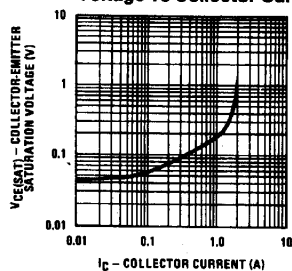
Typical Pulsed Current Gain vs Collector Current



Typical Pulsed Current Gain vs Collector Current

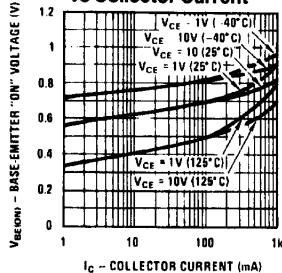


Collector-Emitter Saturation Voltage vs Collector Current

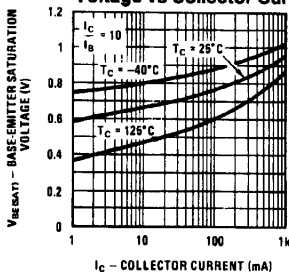


TL/G/10037-15

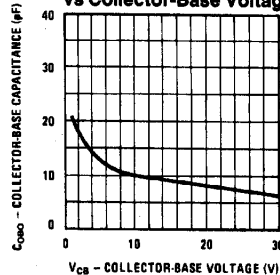
Base-Emitter ON Voltage vs Collector Current



Base-Emitter Saturation Voltage vs Collector Current

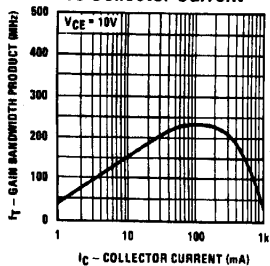


Collector-Base Capacitance vs Collector-Base Voltage

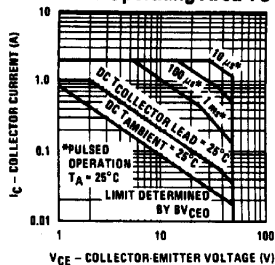


TL/G/10037-16

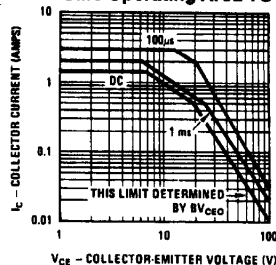
Gain Bandwidth Product vs Collector Current



Safe Operating Area TO-237

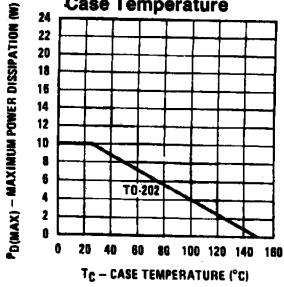


Safe Operating Area TO-202

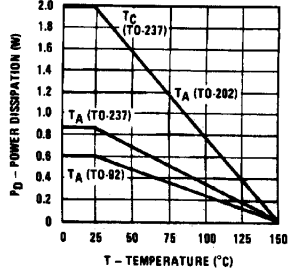


TL/G/10037-17

Maximum Power Dissipation vs Case Temperature

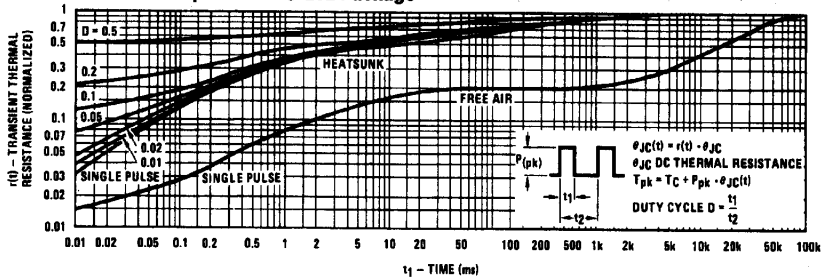


Thermal Derating Curve



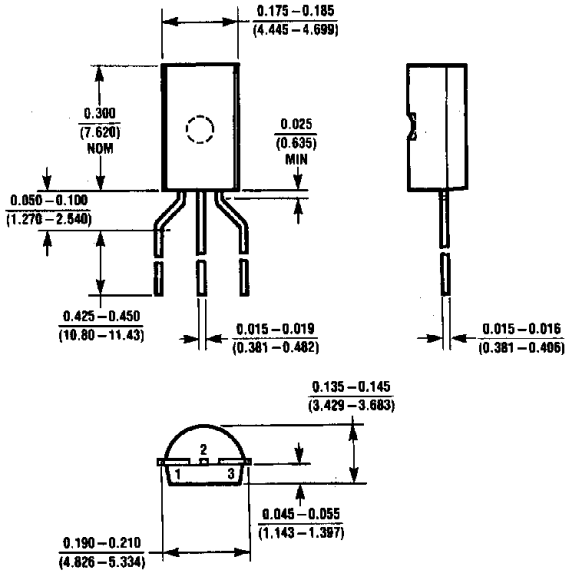
TL/G/10037-18

Thermal Response in TO-202 Package



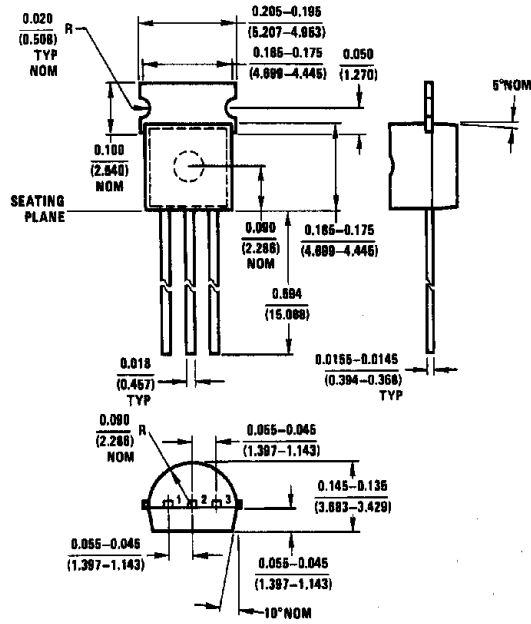
TL/G/10037-20

TO-226 (95, 99)
0.100" Spacing Lead Form
J61Z Option



TL/G/10336-43

TO-237 (90, 91)



Pin	T(90)	T(91)
1	B	C
2	C	B
3	E	E

TL/G/10336-44