

TL/G/10036-9

Electrical Characteristics (T_A = 25°C)

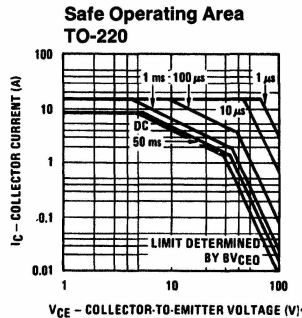
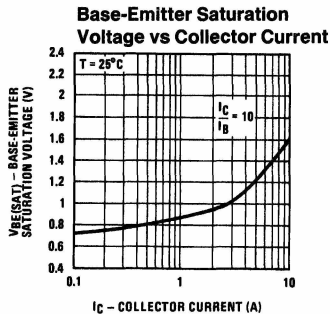
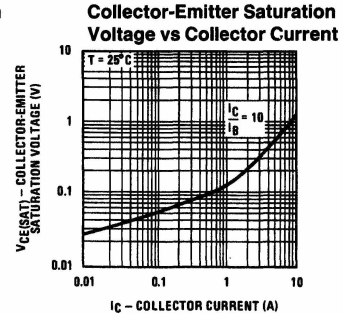
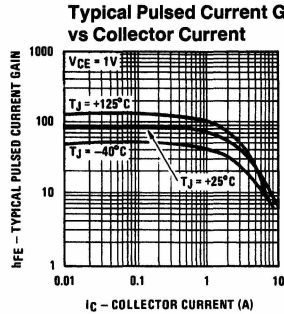
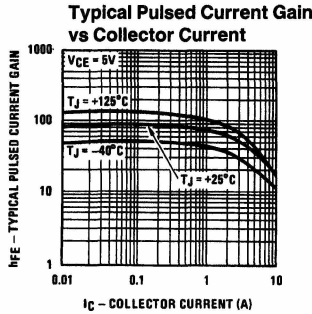
Symbol	Conditions	Min	Typ	Max	Units
BV _{CEO}	I _C = 100 mA (Note 1)	50		120	V
BV _{CES}	I _C = 1 mA				V
BV _{EBO}	I _E = 1 mA	5	8		V
I _{CES}	V _{CE} = 50V			5	μA
I _{EBO}	V _{EB} = 5V			5	μA
h _{FE}	V _{CE} = 5V, I _C = 20 mA	30			
h _{FE}	V _{CE} = 5V, I _C = 0.5A	50	80	200	
h _{FE}	V _{CE} = 5V, I _C = 5A (Note 1)	10			
V _{CE(SAT)}	I _C = 3A, I _B = 0.3A		0.35	1	V
V _{BE(SAT)}	I _C = 3A, I _B = 0.3A		1.1		V
f _t	V _{CE} = 5V, I _C = 0.5A	40			MHz
C _{OB}	V _{CB} = 10V		75		pF
C _{IB}	V _{EB} = 1V		400		pF
t _r t _s t _f	I _C = 2A, V _{CE} = 30V I _{B1} = I _{B2} = 0.2A		60 500 50		ns ns ns
P _{D(max)} TO-220 TO-202	T _C = 25°C T _C = 25°C	40 15			W W
θ _{JC} TO-220 TO-202	T _C = 25°C T _C = 25°C			3.2 8.33	°C/W °C/W
θ _{JA} TO-220 TO-202	T _A = 25°C T _A = 25°C			62.5 62.5	°C/W °C/W
T _{J(max)}	All Plastic Parts	150			°C

Note 1: Pulsed measurement = 300 μs pulse width.

Process 5P

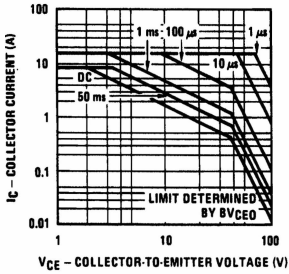
This process is available in the following device types.

	V _{CE0} (V), Min	h _{FE}		@ I _C (A)
		Min	Max	
TO-202 (NS Package 56)				
D43C1	30	25	120	0.2
D43C2	30	40		
D43C3	30	40		
D43C4	45	25		
D43C5	45	40		
D43C6	45	40		
D43C7	60	25		
D43C8	60	40		
D43C9	60	40		
D43C10	80	25		
D43C11	80	40	120	0.2
D43C12	80	40		0.2
TO-220 (NS Package 57)				
D45C1	30	25	120	0.2
D45C2	30	40		
D45C3	30	40		
D45C4	45	25		
D45C5	45	40		
D45C6	45	40		
D45C7	60	25		
D45C8	60	40		
D45C9	60	40		
D45C10	80	25		
D45C11	80	40	120	0.2
D45C12	80	40		0.2

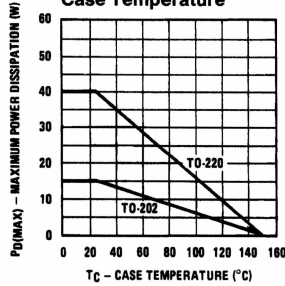


TL/G/10036-10

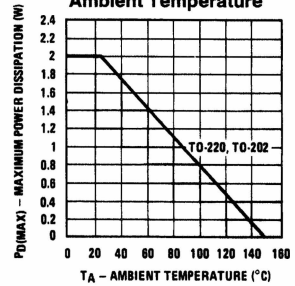
Safe Operating Area
TO-202



Maximum Power
Dissipation vs
Case Temperature

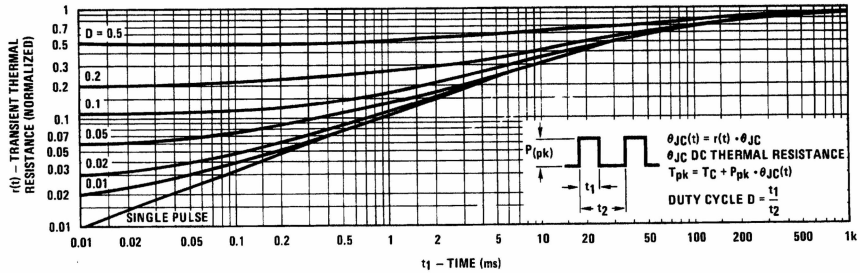


Maximum Power
Dissipation vs
Ambient Temperature



TL/G/10036-11

Thermal Response in TO-220 Package



TL/G/10036-12