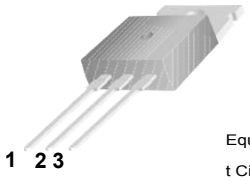
奥 德 利 AUDLEY

E13005

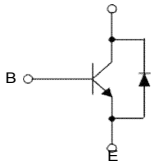
Features

- Wide Safe Operating Area
- Built-in Free Wheeling diode
- Suitable for Electronic Ballast Application
- Small Variance in Storage Time

TO-220



Equivalent Circuit C



1.Base 2.Collector 3.Emitter

Absolute Maximum Ratings* T = 25°C unless otherwise noted

Symbol	Parameter	Value	Units
V_{CBO}	Collector-Base Voltage	700	V
V_{CEO}	Collector-Emitter Voltage	400	V
V_{EBO}	Emitter-Base Voltage	12	V
I_C	Collector Current (DC)	4	A
I_{CP}	Collector Current (Pulse)	8	A
I_B	Base Current	2	A
P_C	Collector Dissipation (T_C = 25°C)	70	W
T_J	Junction Temperature	150	°C
T_{STG}	Storage Temperature	-65 ~ 150	°C

Electrical Characteristics T_C = 25°C unless otherwise noted

Symbol	Parameter	Test Condition	Min.	Typ.	Max.	Units
BV_{CBO}	Collector-Base Breakdown Voltage	I_C = 1mA, I_E = 0	700			V
BV_{CEO}	Collector-Emitter Breakdown Voltage	I_C = 5mA, I_B = 0	400			V
BV_{EBO}	Emitter-Base Breakdown Voltage	I_E = 1mA, I_C = 0	12			V
I_{CES}	Collector Cut-off Current	V_{CE} = 700V, V_{EB} = 0			100	mA
I_{CEO}	Collector Cut-off Current	V_{CE} = 400V, IB = 0			250	mA
I_{EBO}	Emitter Cut-off Current	V_{EB} = 12V, I_C = 0			100	mA
h_{FE}	DC Current Gain	V_{CE} = 5V, I_C = 10mA V_{CE} = 5V, I_C = 2A	10 8		 40	
V_{CE}(sat)	Collector-Emitter Saturation Voltage	I_C = 0.5A, I_B = 0.1A I_C = 1A, I_B = 0.2A I_C = 2.5A, I_B = 0.5A			0.7 1.0 1.5	V
V_{BE}(sat)	Base-Emitter Saturation Voltage	I_C = 0.5A, I_B = 0.1A I_C = 1A, I_B = 0.2A I_C = 2.5A, I_B = 0.5A			1.1 1.2 1.3	V
V_f	Internal Diode Forward Voltage Drop	I_F = 2A			2.5	V

* Pulse Test: PW ≤ 300μs, Duty Cycle ≤ 2%

Thermal Characteristics

Symbol	Parameter	Max.	Units
$R_{\theta JC}$	Thermal Resistance, Junction to Case	1.78	°C/W
$R_{\theta JA}$	Thermal Resistance, Junction to Ambient	62.5	°C/W

Typical Performance Characteristics

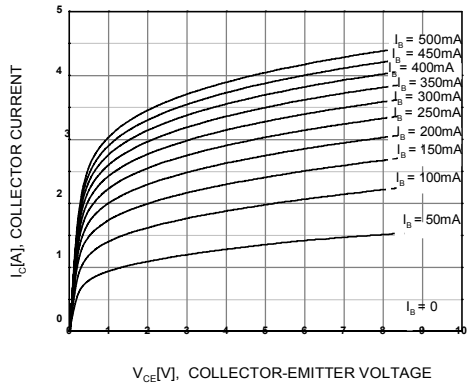


Figure 1. Static Characteristic

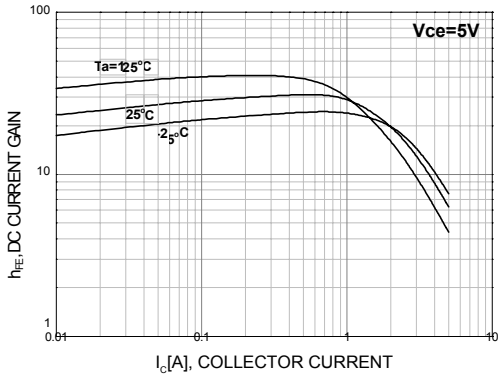


Figure 2. DC Current Gain

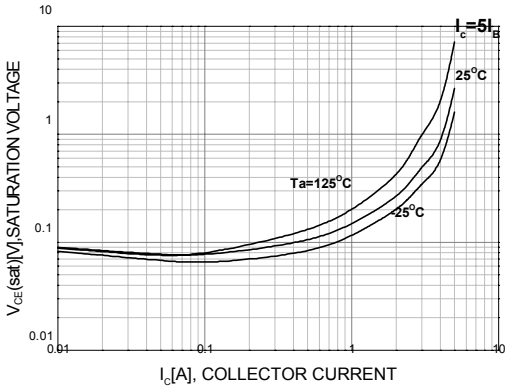


Figure 3. Collector-Emitter Saturation Voltage

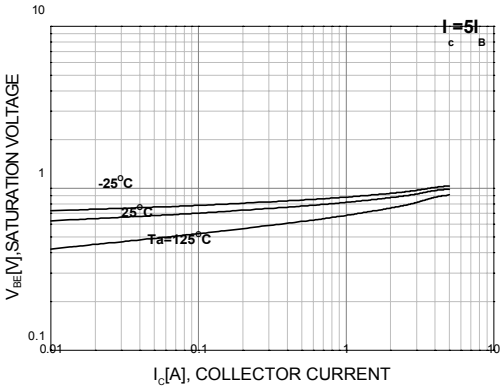


Figure 4. Base-Emitter Saturation Voltage

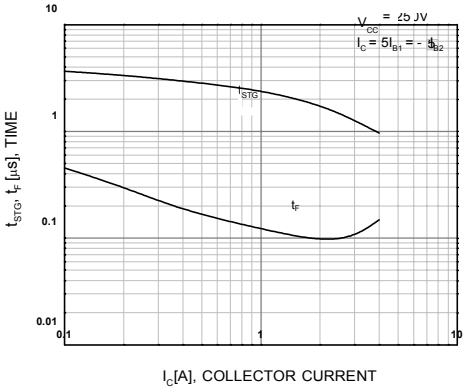


Figure 5. Resitive Load Switching Time

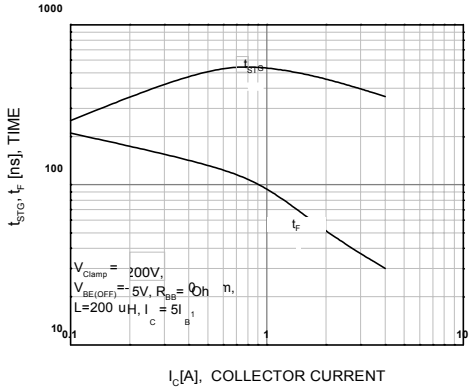


Figure 6. Inductive Load Switching Time

Typical Performance Characteristics

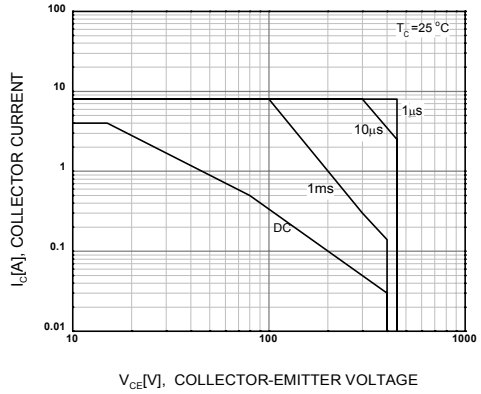


Figure 7. Forward Bias Safe Operating Area

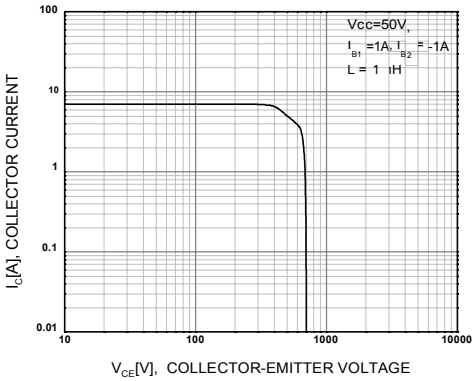


Figure 8. Reverse Bias Safe Operating Area

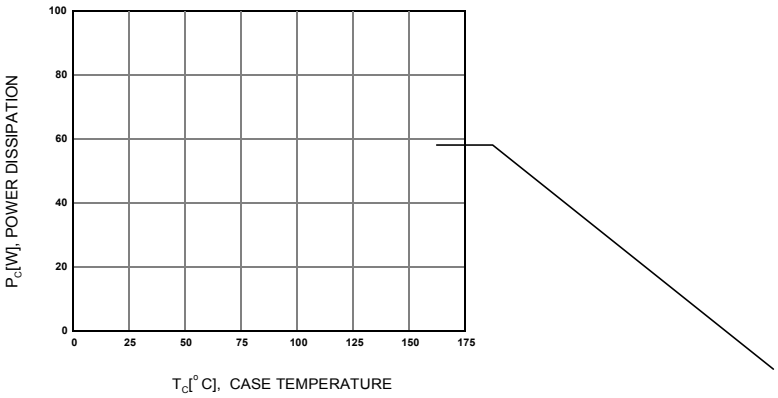
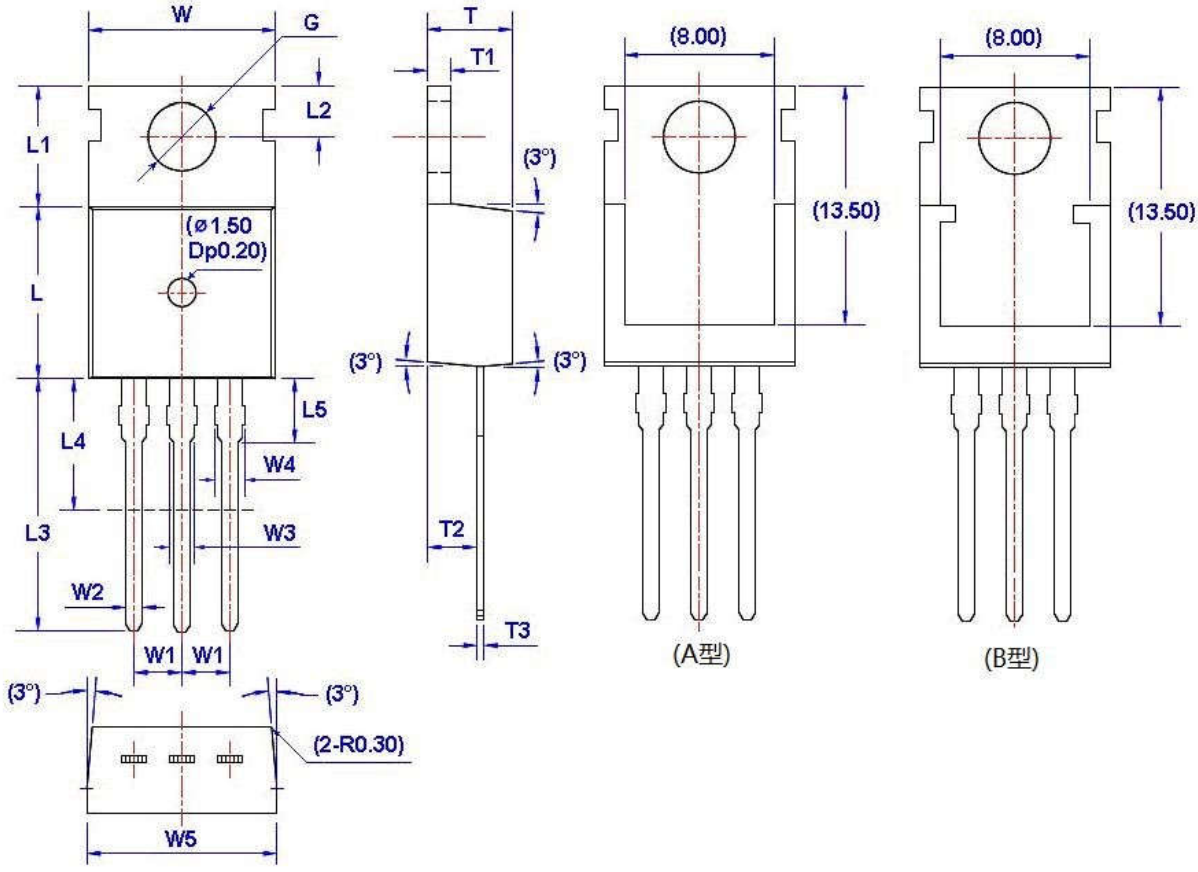


Figure 9. Power Derating

Package Dimension

TO-220

Unit:mm



Symbol	Size		Symbol	Size		Symbol	Size		Symbol	Size	
	Min	Max		Min	Max		Min	Max		Min	Max
W	9.66	10.28	W5	9.80	10.20	L4**	6.20	6.60	T3	0.45	0.60
W1	2.54（TYP）		L	9.00	9.40	L5	2.79	3.30	G(Φ)	3.50	3.70
W2	0.70	0.95	L1	6.40	6.80	T	4.30	4.70			
W3	1.17	1.37	L2	2.70	2.90	T1	1.15	1.40D	imensions in Millimeters		
W4*	1.32	1.72	L3	12.70	14.27	T2	2.20	2.60			