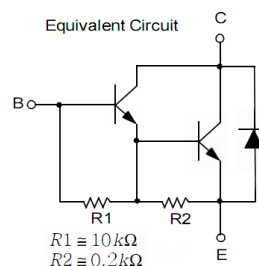
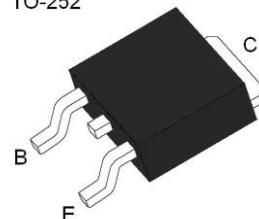


Darlington Transistor

Medium Power Linear Switching Applications



TO-252



Absolute Maximum Rating (Ta=25°C)

Parameter	Symbol	Value	Unit
Collector-Base Voltage	V_{CBO}	100	V
Collector-Emitter Voltage	V_{CEO}	100	V
Emitter-Base Voltage	V_{EBO}	5	V
Collector Current(DC)	I_C	4	A
Collector Dissipation, Ta =25 °C	P_C	1.25	W
Junction Temperature	T_j	150	°C
Storage Temperature	T_{stg}	-55~150	°C

Electrical Characteristics (Ta=25°C)

Parameter	Symbol	Conditions	Value			Unit
			Min	Typ	Max	
Collector-Emitter Sustaining Voltage	$V_{CEO(sus)}$	$I_C = 30mA, I_B = 0$	100			V
Collector cut-off current	I_{CBO}	$V_{CB} = 100V, I_E = 0$			0.2	mA
Collector cut-off current	I_{CEO}	$V_{CE} = 50V, I_E = 0$			0.5	mA
Emitter cut-off current	I_{EBO}	$V_{EB} = 5V, I_C = 0$			0.2	mA
* DC current gain	h_{FE}	$V_{CE} = 3V, I_C = 0.5A$ $V_{CE} = 3V, I_C = 3A$	1000 1000			
*Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C = 3A, I_B = 12mA$ $I_C = 5A, I_B = 20mA$			2 4	V
* Base-Emitter ON Voltage	$V_{BE(on)}$	$V_{CE} = 3V, I_C = 3A$			2.5	V

* Pulse Test : $PW \leq 300\mu s$, Duty cycle $\leq 2\%$

Typical characteristic (curves)

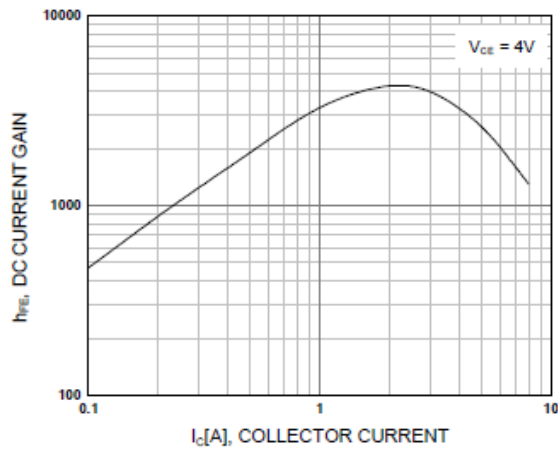


Figure 1. DC current Gain

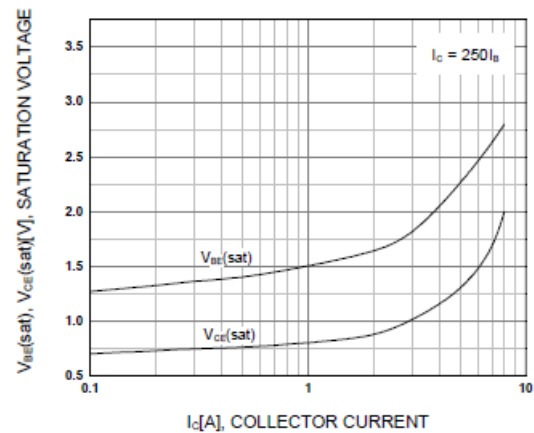


Figure 2. Base-Emitter Saturation Voltage
Collector-Emitter Saturation Voltage

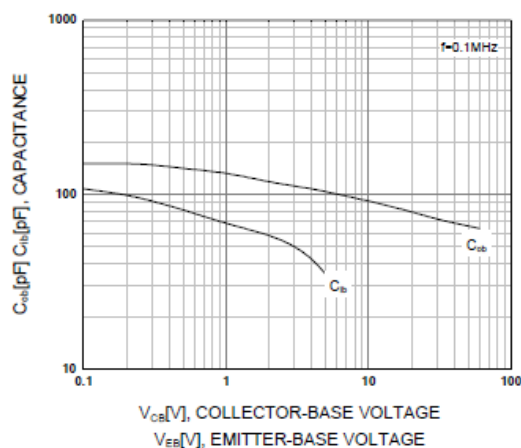


Figure 3. Output and Input Capacitance
vs. Reverse Voltage

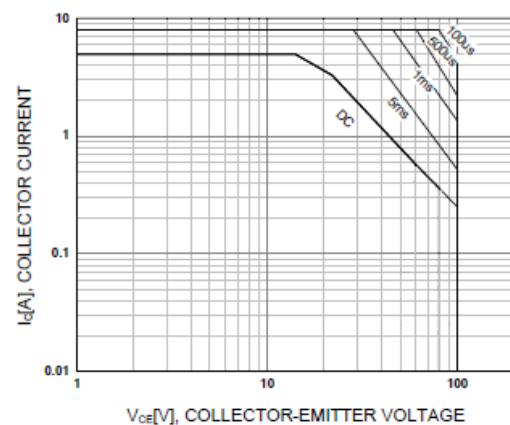


Figure 4. Safe Operating Area

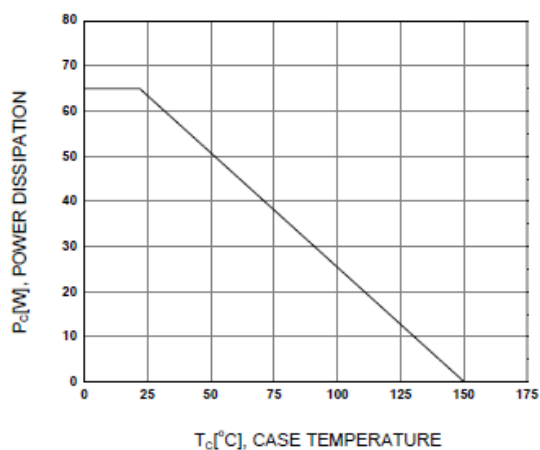
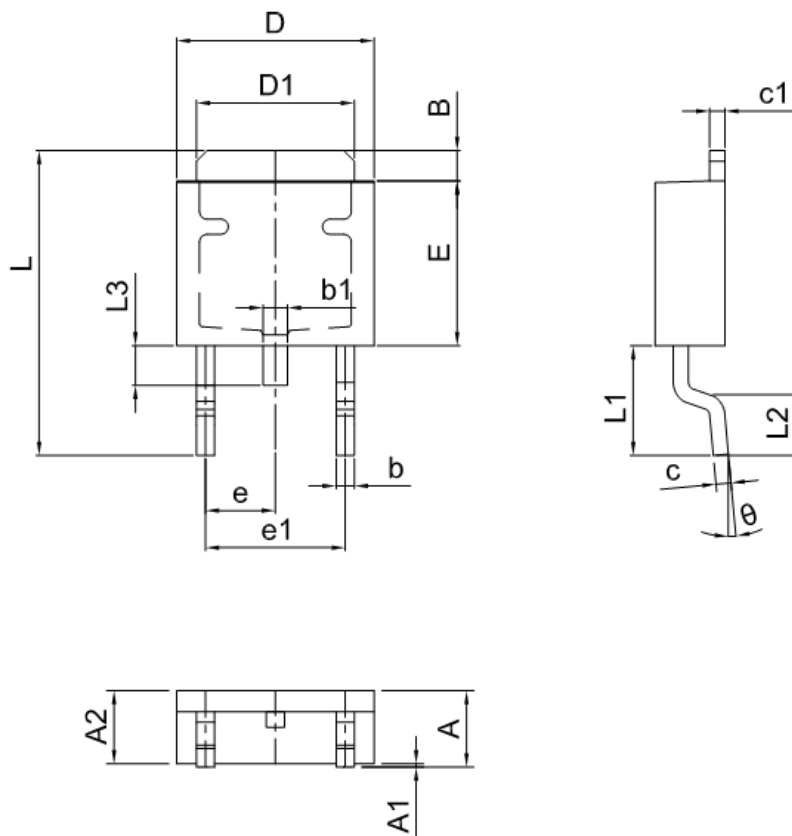


Figure 5. Power Derating

Package Dimensions (Unit:mm)



Symbol	Min.	Typ	Max.
A	2.20	2.35	2.50
A1	0.00	0.05	0.12
A2	2.20	2.30	2.40
B	1.20	1.40	1.60
b	0.50	0.60	0.70
b1	0.70	0.80	0.90
c	0.40	0.50	0.60
c1	0.40	0.50	0.60
D	6.35	6.50	6.65
D1	5.20	5.30	5.40
E	5.40	5.50	5.70
e	2.20	2.30	2.40
e1	4.40	4.60	4.80
L	9.60	9.90	10.20
L1	2.70	2.90	3.10
L2	1.40	1.60	1.80
L3	0.90	1.20	1.50
θ	0°	4°	8°

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