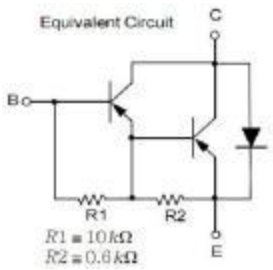
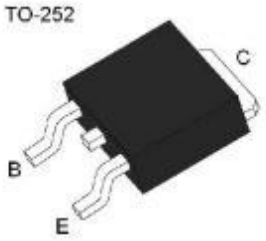
Darlington Transistor

Medium Power Linear Switching Applications

- Complementary to MJD127





Absolute Maximum Rating (Ta=25℃)

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	3	A
Collector Dissipation	Tc =25 ℃	P_C	20	W
	Ta =25 ℃		1.75	W
Junction Temperature		Tj	150	℃
Storage Temperature		Tstg	-65～150	℃

Electrical Characteristics (Ta=25℃)

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
Output Capacitance	C_{ob}	V_{CB}=10V,I_E=0,f = 0.1MHz			100	pF

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

Typical characteristic

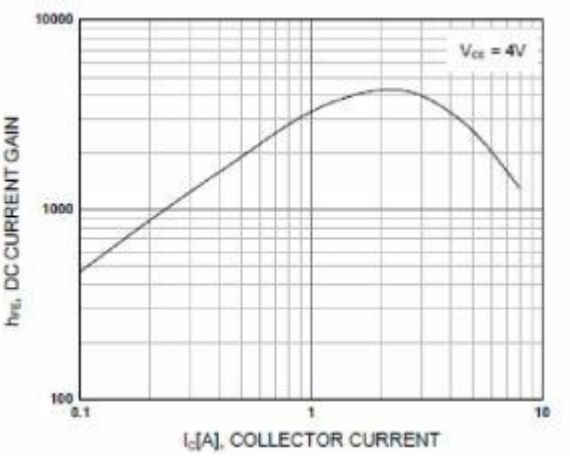


Figure 1. DC current Gain

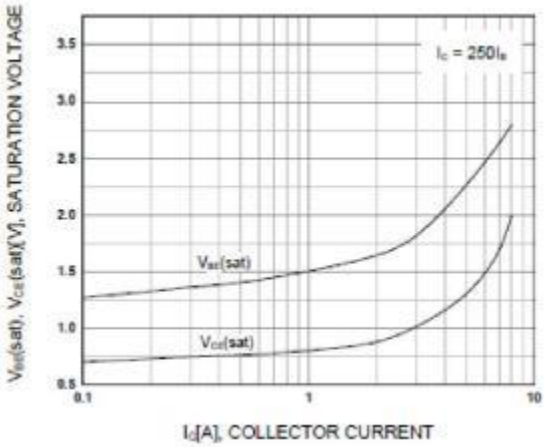


Figure 2. Base-Emitter Saturation Voltage Collector-Emitter Saturation Voltage

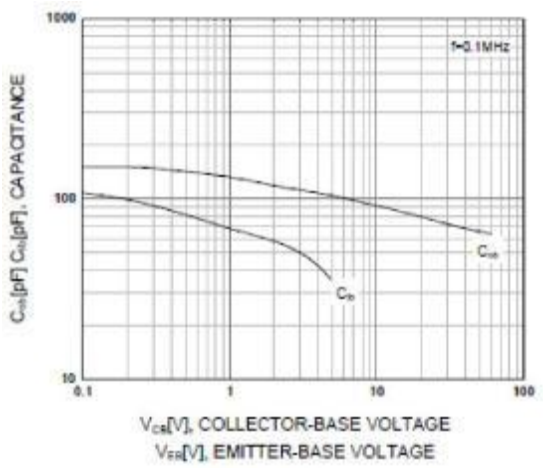


Figure 3. Output and Input Capacitance vs. Reverse Voltage

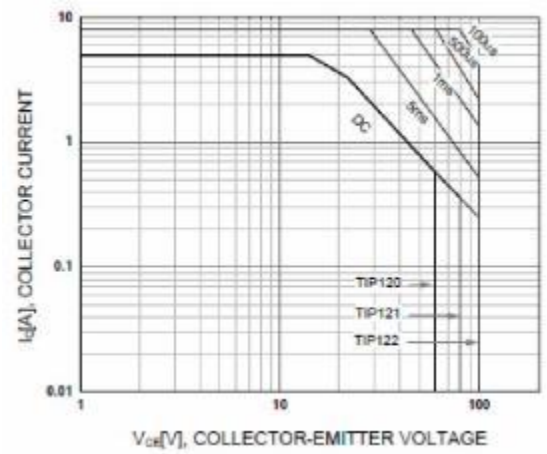


Figure 4. Safe Operating Area

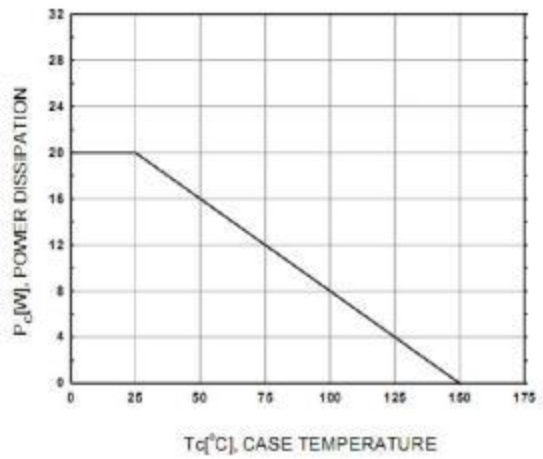
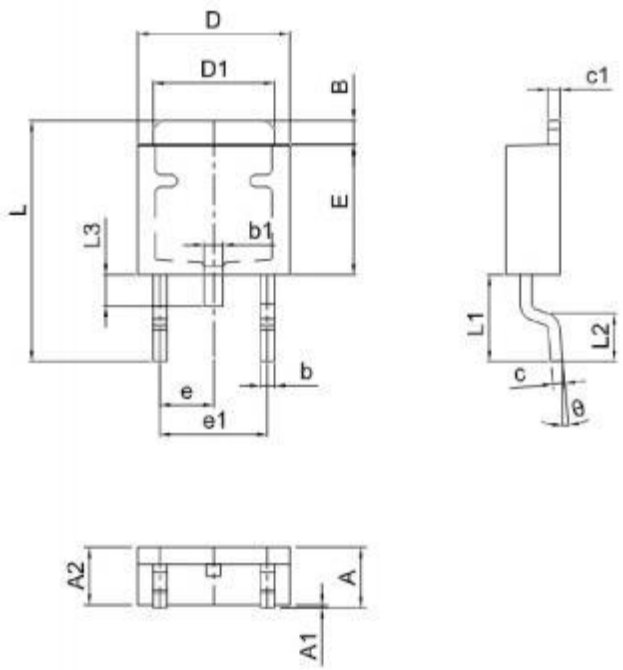


Figure 5. Power Derating

TO-252 Package Dimensions



DIM	Millimeter		Inches	
	Min.	Max.	Min.	Max.
A	2.20	2.50	0.087	0.098
A1	0.00	0.12	0.000	0.005
A2	2.20	2.40	0.087	0.094
B	1.20	1.60	0.047	0.063
b	0.50	0.70	0.020	0.028
b1	0.70	0.90	0.028	0.035
c	0.40	0.60	0.016	0.024
c1	0.40	0.60	0.016	0.024
D	6.35	6.65	0.250	0.262
D1	5.20	5.40	0.205	0.213
E	5.40	5.70	0.213	0.224
e	2.20	2.40	0.087	0.094
e1	4.40	4.80	0.173	0.189
L	9.60	10.20	0.378	0.402
L1	2.70	3.10	0.106	0.122
L2	1.40	1.80	0.055	0.071
L3	0.90	1.50	0.035	0.059
θ	0°	8°	0°	8°