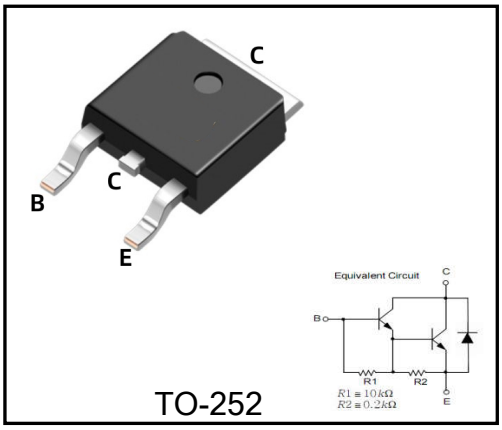
Plastic-Encapsulate Transistors

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	4	A
Collector Dissipation,Ta =25 ℃	P_C	1.25	W
Junction Temperature	Tj	150	℃
Storage Temperature	T_{stg}	-55 ~ 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

* Pulse Test：PW≤300μs，Duty cycle≤2%

Typical characteristic (curves)

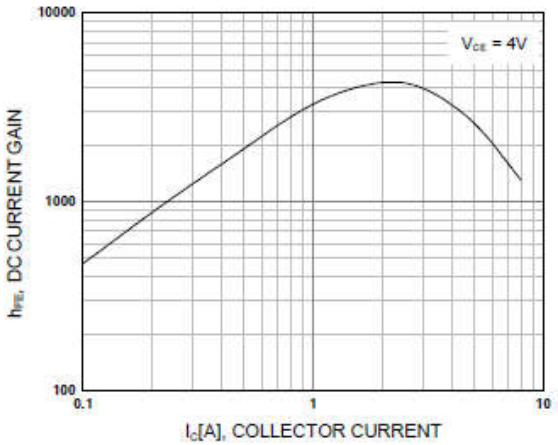


Figure 1. DC current Gain

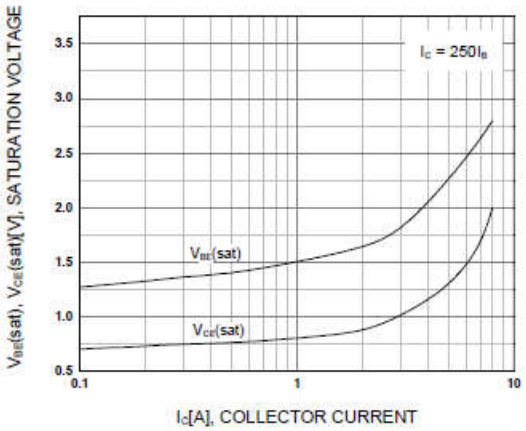


Figure 2. Base-Emitter Saturation Voltage Collector-Emitter Saturation Voltage

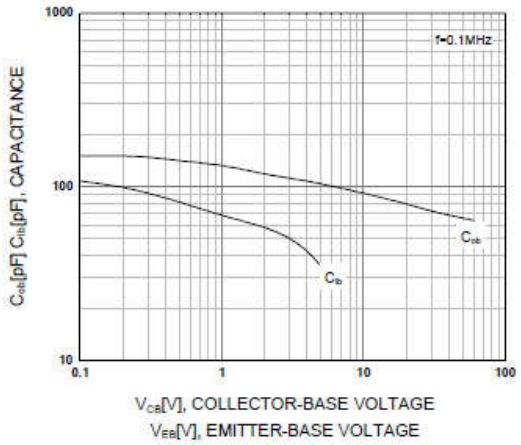


Figure 3. Output and Input Capacitance vs. Reverse Voltage

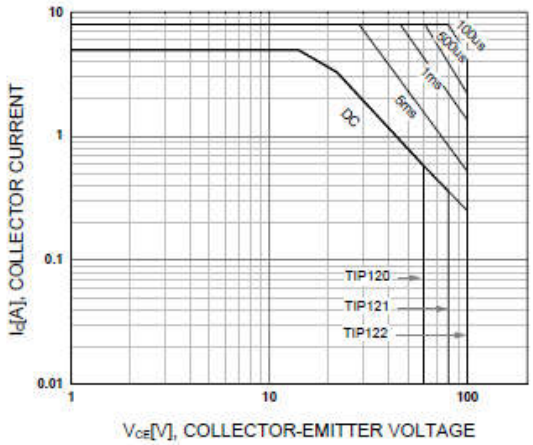


Figure 4. Safe Operating Area

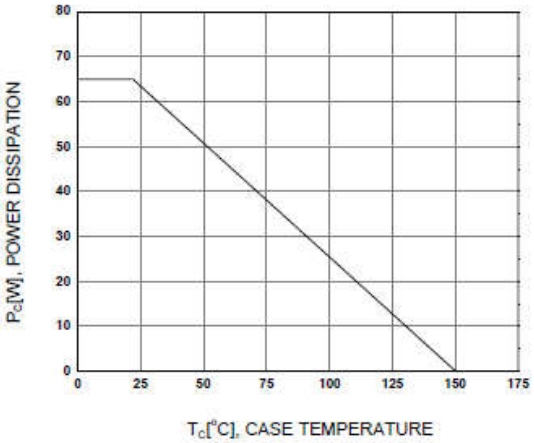
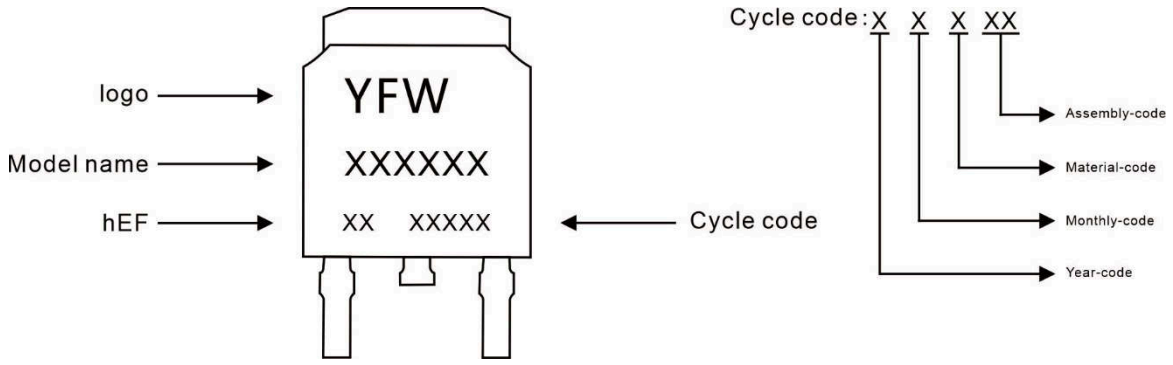


Figure 5. Power Derating

Marking Diagram

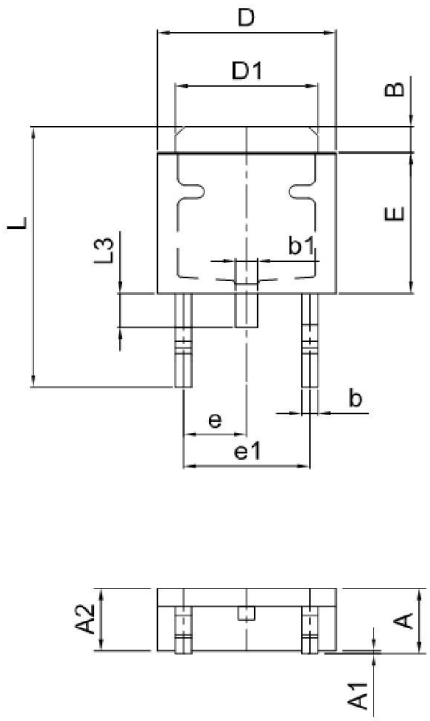


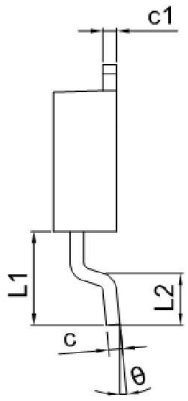
Ordering information

Model name	Package	Unit Weight	Base Quantity	Packing Quantity
ÔxÝðï ï	TO-252	0.011oz(0.32g)	2500pcs/reel	5000pcs/box 25000pcs/Carton

Package Dimensions

TO-252





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	10.00	11.00	0.393	0.433
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