

Description

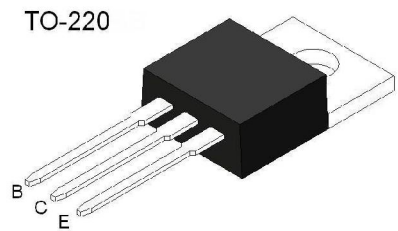
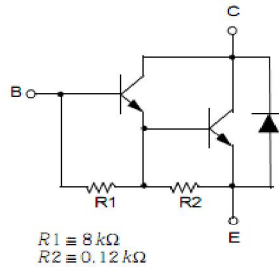
The devices are manufactured in planar technology with “base island” layout and monolithic Darlington configuration. The resulting transistors show exceptional high gain performance coupled with very low saturation voltage.

Applications

General purpose linear and switching

Features

Low collector-emitter saturation voltage



Absolute Maximum Rating (Ta=25°C)

Parameter		Symbol	Value	Unit
Collector-Base Voltage		BV_{CBO}	100	V
Collector-Emitter Voltage		BV_{CEO}	100	V
Emitter-Base Voltage		BV_{EBO}	5	V
Collector Current(DC)		I_C	5	A
Collector Dissipation	Ta = 25 °C	P_C	2	W
	Tc = 25 °C		65	
Junction Temperature		T_j	150	°C
Storage Temperature		T_{stg}	-65~150	°C

Electrical Characteristics (Ta=25°C)

Parameter	Symbol	Conditions	Value			Unit
			Min	Typ	Max	
Collector-Emitter Sustaining Voltage	$V_{CE(sus)}$	$I_C = 30\text{mA}, I_B = 0$	100			V
Collector cut-off current	I_{CBO}	$V_{CB} = 100\text{V}, I_E = 0$			0.2	mA
Collector cut-off current	I_{CEO}	$V_{CE} = 50\text{V}, I_E = 0$			0.5	mA
Emitter cut-off current	I_{EBO}	$V_{EB} = 5\text{V}, I_C = 0$			2	mA
* DC current gain	h_{FE}	$V_{CE} = 3\text{V}, I_C = 0.5\text{A}$ $V_{CE} = 3\text{V}, I_C = 3\text{A}$	1000 1000			
*Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C = 3\text{A}, I_B = 12\text{mA}$ $I_C = 5\text{A}, I_B = 20\text{mA}$			2.0 4.0	V
* Base-Emitter ON Voltage	$V_{BE(on)}$	$V_{CE} = 3\text{V}, I_C = 3\text{A}$			2.5	V
Output Capacitance	C_{ob}	$V_{CB} = 10\text{V}, I_E = 0, f = 0.1\text{MHz}$			200	pF

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

Typical Characteristics

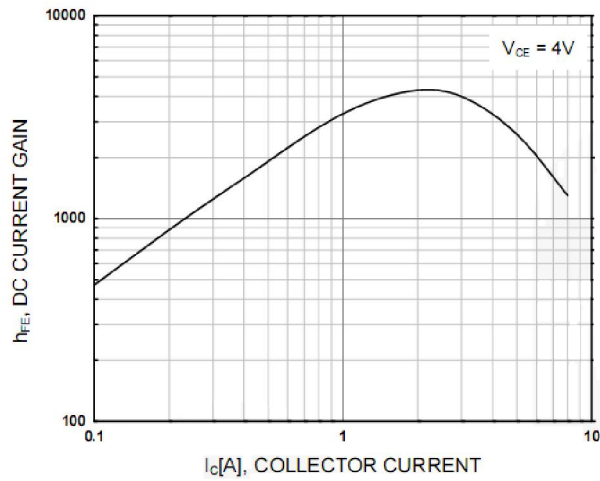


Figure 1. DC current Gain

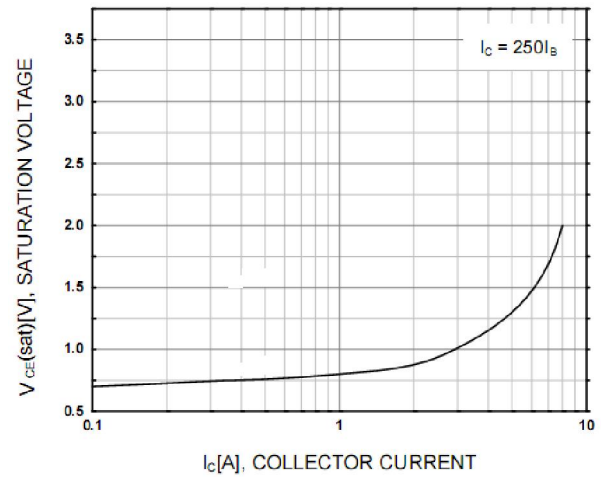


Figure 2. Collector-Emitter Saturation Voltage

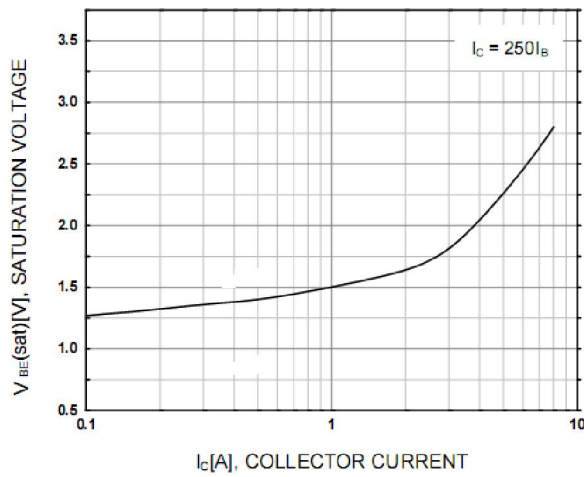


Figure 3. Base-Emitter Saturation Voltage

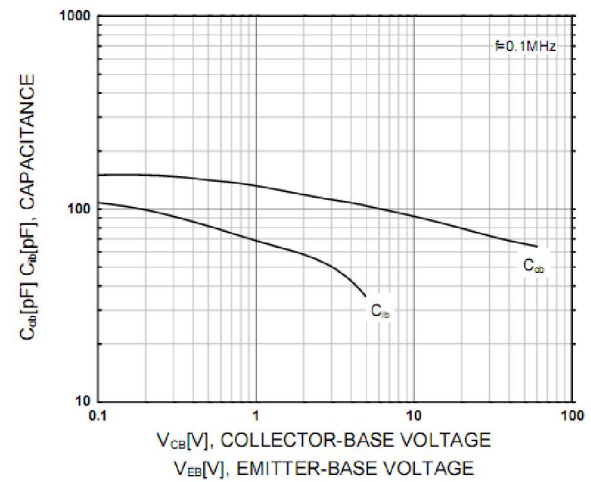


Figure 4. Output and Input Capacitance

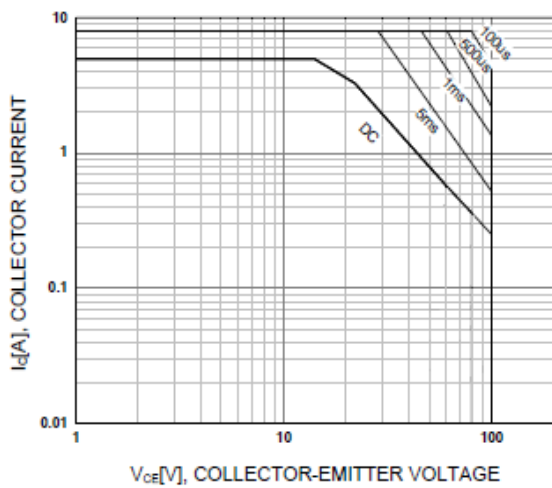


Figure 5. Safe Operating Area

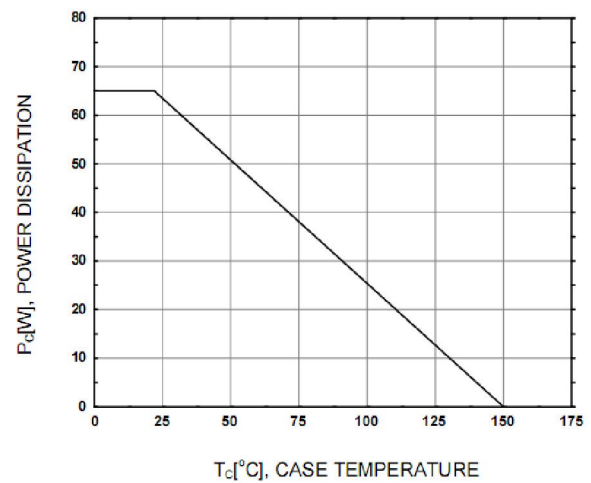


Figure 6. Power Derating

Package Dimensions

Symbol	Millimeter		Inches	
	Min.	Max.	Min.	Max.
A	4.34	4.67	0.171	0.184
A1	2.52	2.82	0.099	0.111
b	0.71	0.91	0.028	0.036
b1	1.17	1.37	0.046	0.054
c	0.30	0.50	0.012	0.020
c1	1.17	1.37	0.046	0.054
D	9.90	10.20	0.390	0.402
E	8.50	8.90	0.335	0.350
E1	12.00	12.50	0.472	0.492
e	2.44	2.64	0.096	0.104
e1	4.88	5.28	0.192	0.208
F	2.60	2.80	0.102	0.110
L	13.20	13.80	0.520	0.543
L1	3.80	4.20	0.150	0.165
Φ	3.60	3.96	0.142	0.156

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