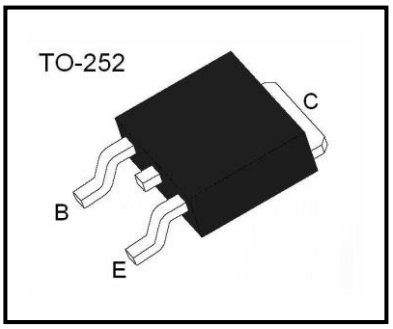
Applications

• Audio power amplifier
• Switching in Hybrid Integrated Circuits.



Features

- High h_{FE}: h_{FE}= 100 to 400
- Low $V_{CE(sat)}$: $V_{CE(sat)}$ ≤ 0.25 V

Absolute Maximum Rating (Ta=25℃)

Parameter	Symbol	Value	Unit
Collector-base voltage	BV_{CBO}	60	V
Collector-emitter voltage	BV_{CEO}	60	V
Emitter-base voltage	BV_{EBO}	7	V
Collector current	I_C	3	A
Collector power dissipation	P_C	1.25	W
Junction temperature	T_j	150	℃
Storage temperature	T_{stg}	-55～150	℃

Electrical Characteristics (Ta=25℃)

Parameter	Symbol	Conditions	Min	Typ	Max	Unit
Collector-base breakdown voltage	BV_{CBO}	I_C = 100μA，I_E = 0	60			V
Collector-emitter breakdown voltage	BV_{CEO}	I_C = 1mA，I_B = 0	60			V
Emitter-base breakdown voltage	BV_{EBO}	I_E = 100μA，I_C = 0	7			V
Collector -base cut-off current	I_{CBO}	V_{CB} = 60V，I_E = 0			10	μA
Emitter- base cut-off current	I_{EBO}	V_{EB} = 7V，I_C = 0			10	μA
DC current gain*	h_{FE}(1)	V_{CE} = 2V，I_C= 0.2A	30			
	h_{FE}(2)	V_{CE} = 2V，I_C= 0.6A	100		400	
	h_{FE}(3)	V_{CE} = 2V，I_C= 2.0A	50			
Collector-emitter saturation voltage*	$V_{CE(sat)}$	I_C = 1.5A, I_B = 0.15A			0.25	V
Base-emitter saturation voltage*	$V_{BE(sat)}$	I_C = 1.5A, I_B = 0.15A			1.2	V
Transition frequency	f_T	V_{CE} = 5V，I_C = 1.5A		120		MHz
Output capacitance	C_{ob}	V_{CB} = 10V，I_E = 0		30		pF

Note *Pulse test: PW ≤ 350μs, duty cycle ≤ 2%

h_{FE} (2) Classification

Classification	M	L	K
Range	100~200	160~320	200~400

Typical Characteristics

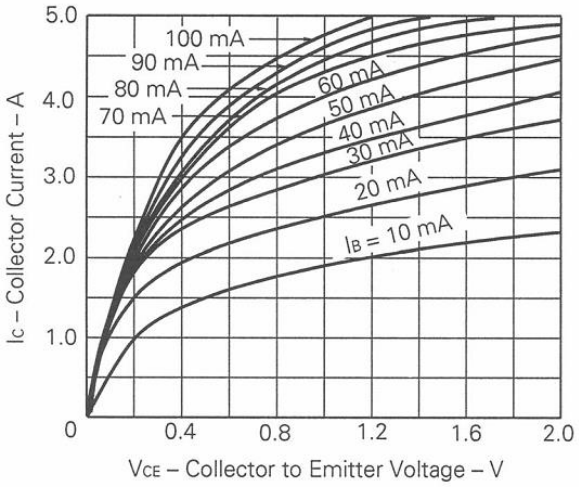


Figure 1. Static Characteristic

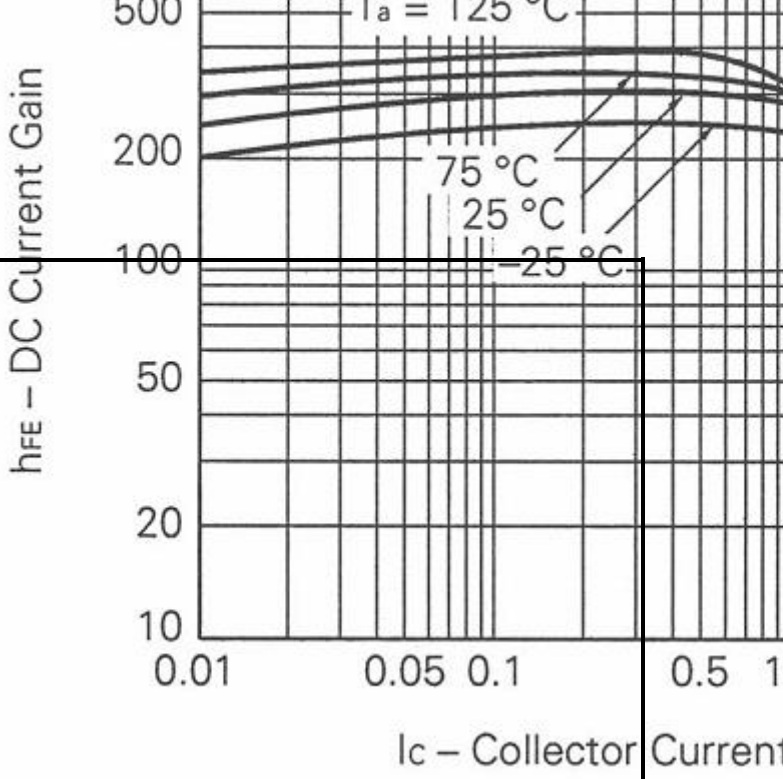


Figure 2. DC current Gain

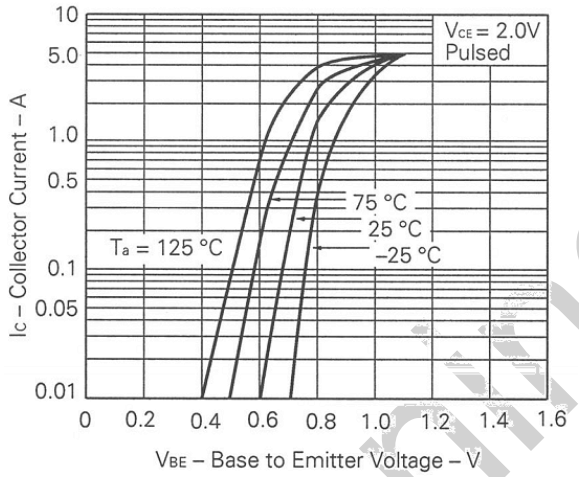


Figure 3. Base-Emitter Voltage vs Collector current

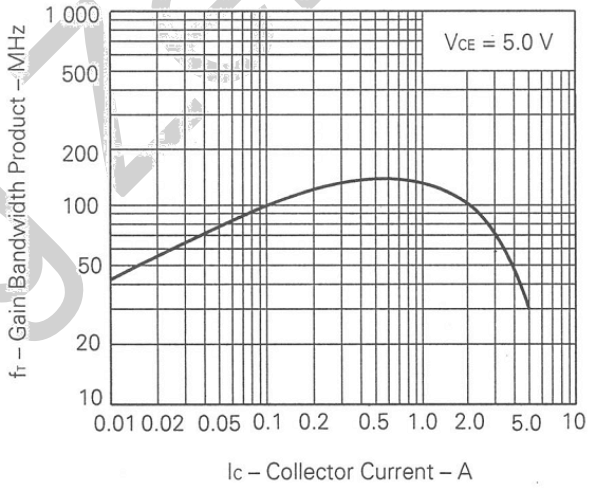


Figure 4. Current Gain Bandwidth Product

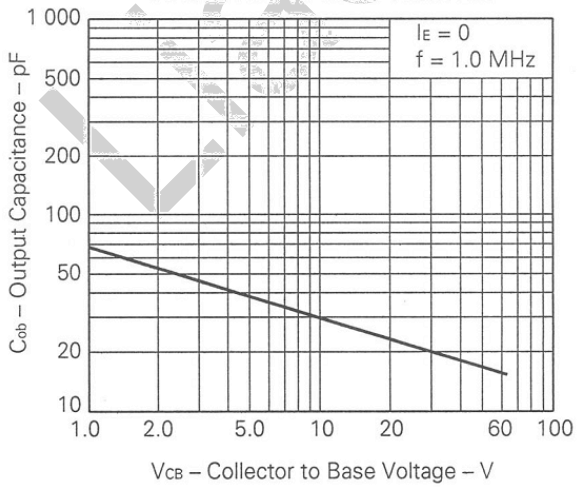


Figure 5. Collector Output Capacitance

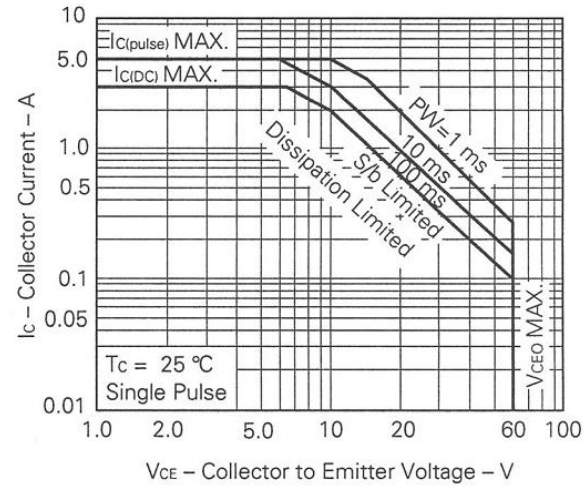
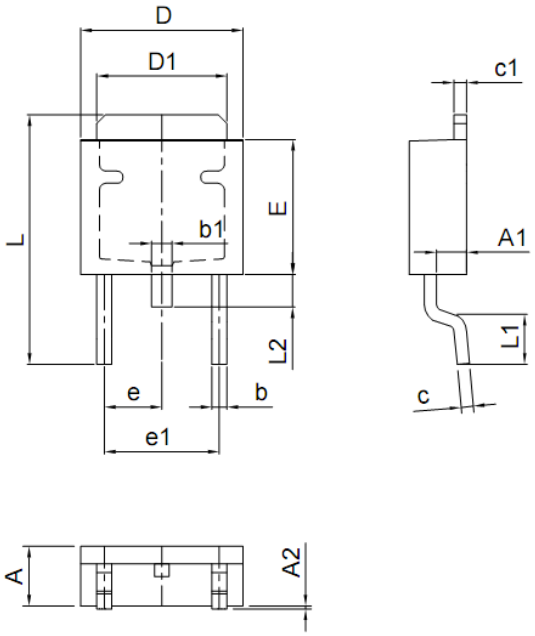


Figure 6. Safe Operating Area

Package Dimensions



Dim	Millimeter		Inches	
	Min.	Max.	Min.	Max.
A	2.20	2.50	0.087	0.094
A1	1.00	1.40	0.039	0.055
A2	0.00	0.15	0.000	0.006
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	6.20	6.70	0.244	0.264
D1	5.10	5.50	0.201	0.217
E	5.50	6.00	0.217	0.236
e	2.20	2.40	0.087	0.094
e1	4.40	4.80	0.173	0.189
L	9.70	10.40	0.382	0.409
L1	1.40	1.70	0.055	0.063
L2	0.60	1.20	0.024	0.047