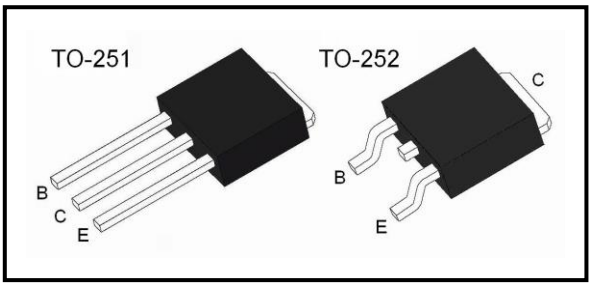
Power Amplifier Applications

Driver Stage Amplifier Applications



Fratures :

- High transition frequency: fT= 100 MHz (typ.)
- Complementary to 2SA1225

Absolute Maximum Rating (Ta=25℃)

Parameter	Symbol	Value	Unit
Collector-base voltage	BV_{CBO}	160	V
Collector-emitter voltage	BV_{CEO}	160	V
Emitter-base boltage	BV_{EBO}	5	V
Collector current	I_C	1.5	A
Collector power dissipation	P_C	1	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 voltage	BV_{CBO}	I_C = 100μA，I_E = 0	160			V
Collector-emitter voltage	BV_{CEO}	I_C = 1mA，I_B = 0	160			V
Emitter-base voltage	BV_{EBO}	I_E = 100μA，I_C = 0	5			V
Collector cut-off current	I_{CBO}	V_{CB} = 160V，I_E = 0			1	μA
Emitter cut-off current	I_{EBO}	V_{EB} = 5V，I_C = 0			1	μA
DC current gain	h_{FE}	V_{CE}= 5V，I_C= 100mA	70		240	
Collector-emitter saturation voltage	$V_{CE(sat)}$	I_C = 500mA，I_B = 50mA			1.5	V
Base -emitter voltage	$V_{BE(on)}$	V_{CE}= 5V，I_C= 100mA			1.0	V
Transition frequency	f_T	V_{CE} = 10V，I_C= 100mA		100		MHz
Output capacitance	C_{ob}	V_{CB}=10V, I_E=0, f=1MHz		25		pF

h_{FE} Classification

Classification	O	Y
Range	60-120	100-200

Typical Characteristics

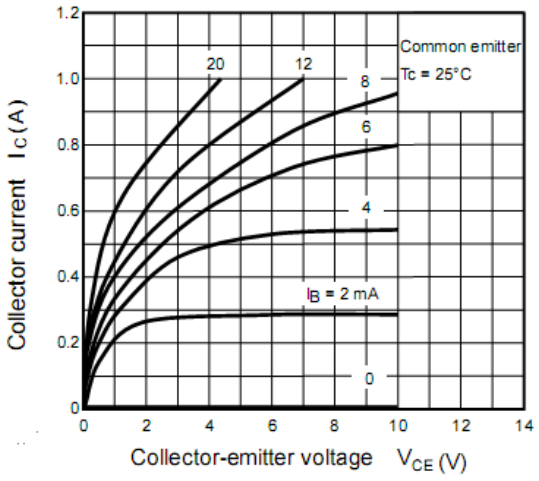


Fig.1 Static characteristics

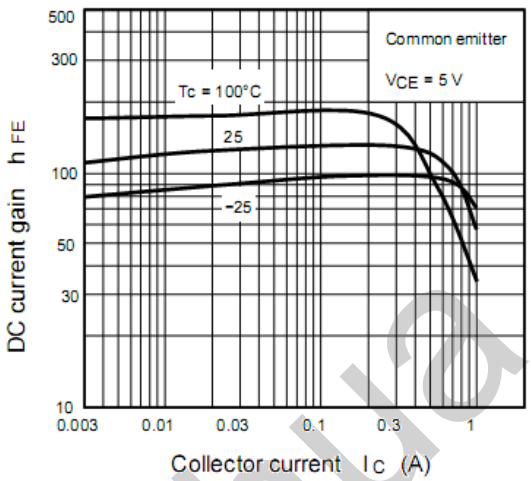


Fig.2 DC Current Gain

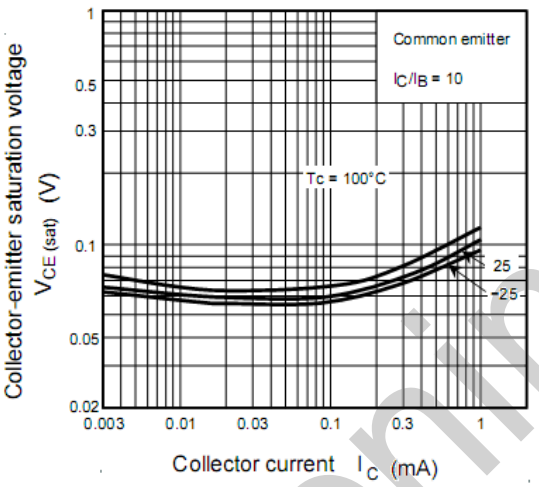


Fig.3 Collector -Emtter Saturation voltage

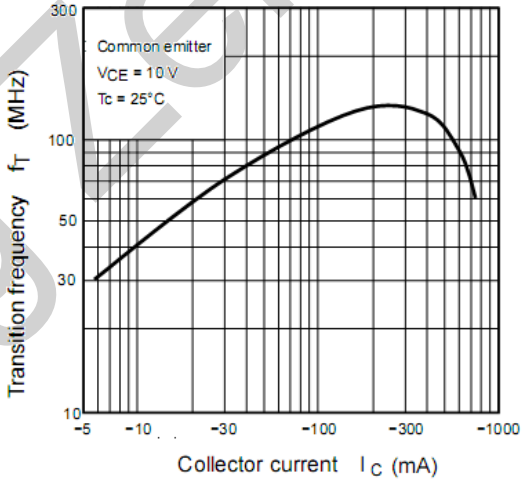


Fig.3 Current Gain-Bandwidth Product

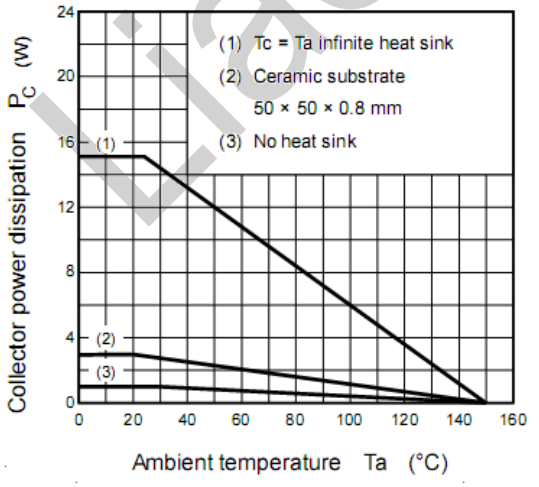


Fig.5. Power Derating

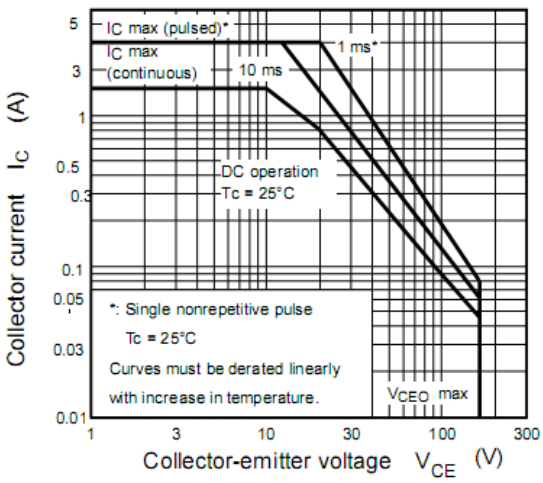
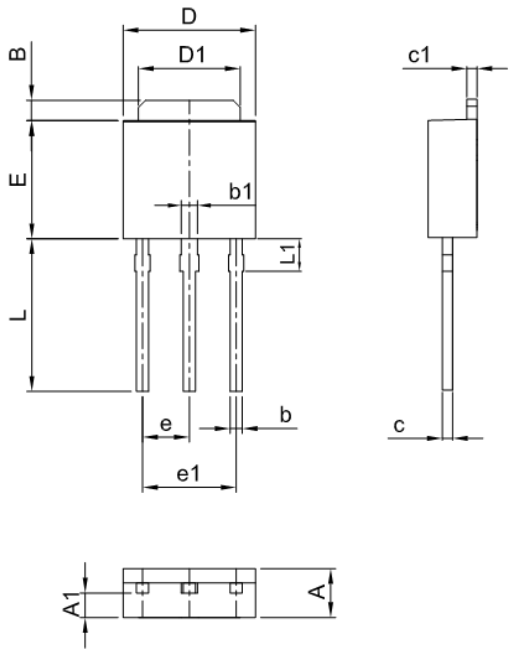


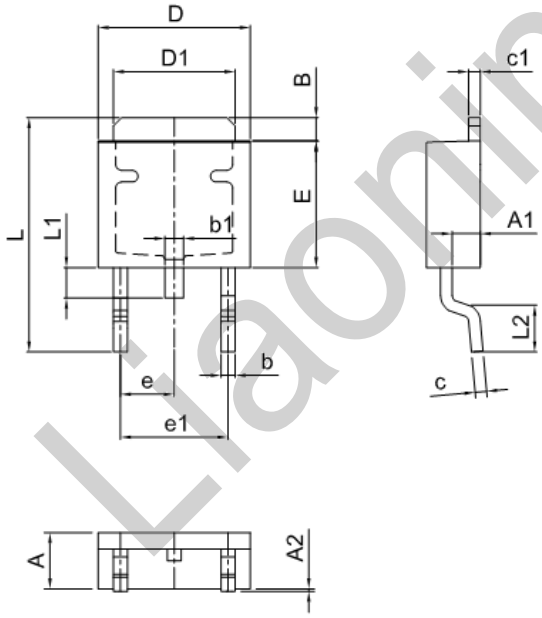
Figure 6. Safe Operating Area

Package Dimensions

TO-251



TO-252



Dim	Millimeter		Inches	
	Min.	Max.	Min.	Max.
A	2.20	2.50	0.087	0.098
A1	1.00	1.40	0.039	0.055
B	1.00	1.40	0.039	0.055
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	6.30	6.70	0.248	0.264
D1	5.10	5.50	0.201	0.217
E	5.30	6.00	0.209	0.236
e	2.20	2.40	0.087	0.094
e1	4.40	4.80	0.173	0.189
L	7.30	8.00	0.287	0.315
L1	1.20	1.80	0.047	0.071
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	1.00	1.40	0.039	0.055
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	6.30	6.70	0.248	0.264
D1	5.10	5.50	0.201	0.217
E	5.30	6.00	0.209	0.236
e	2.20	2.40	0.087	0.094
e1	4.40	4.80	0.173	0.189
L	9.60	10.40	0.378	0.409
L1	0.60	1.00	0.024	0.039
L2	1.40	1.70	0.055	0.063