

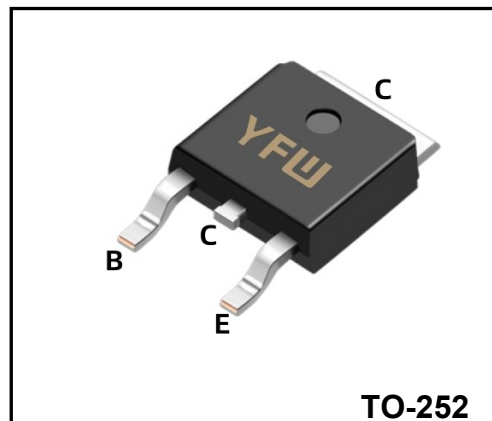
NPN Plastic-Encapsulate Transistors

Power Amplifier Applications

Driver Stage Amplifier Applications

Features :

- ♦High transition frequency: $f_T = 100 \text{ MHz}$ (typ.)
- ♦Complementary to 2SA1225



TO-252

Absolute Maximum Rating ($T_a = 25^\circ\text{C}$)

Parameter	Symbol	Value	Unit
Collector-Base Voltage	BV_{CBO}	160	V
Collector-Emitter Voltage	BV_{CEO}	160	V
Emitter-Base Voltage	BV_{EBO}	5	V
Collector Current	I_C	1.5	A
Collector Power Dissipation	P_C	1	W
Junction Temperature	T_j	150	$^\circ\text{C}$
Storage Temperature	T_{stg}	$-55 \sim 150$	$^\circ\text{C}$

Electrical Characteristics ($T_a = 25^\circ\text{C}$)

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

h_{FE} Classification

Classification	2SC2983-O	2SC2983-Y
Range	70-140	120-240

Typical Characteristics

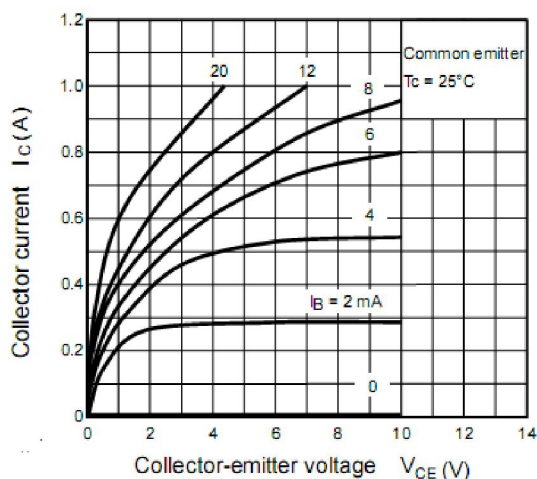


Fig.1 Static characteristics

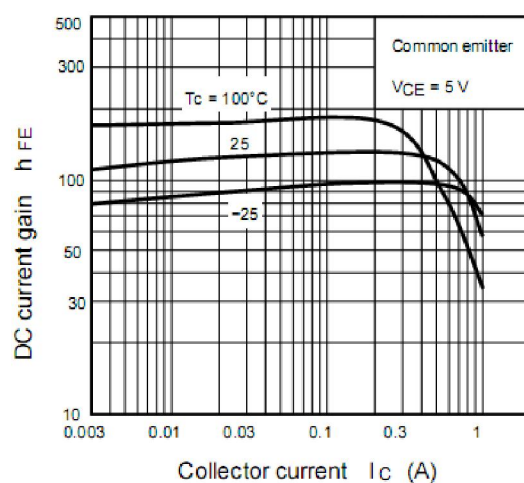


Fig.2 DC Current Gain

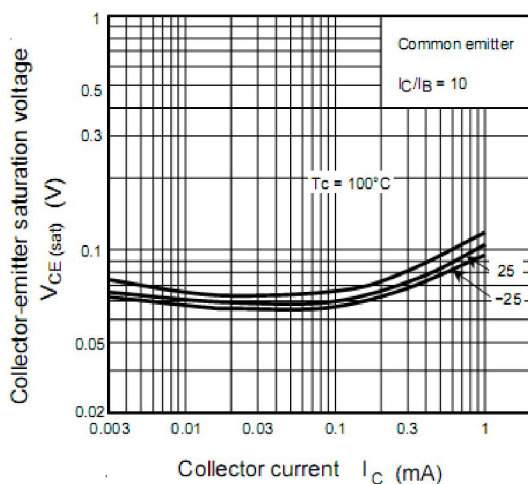


Fig.3 Collector -Emtter Saturation voltage

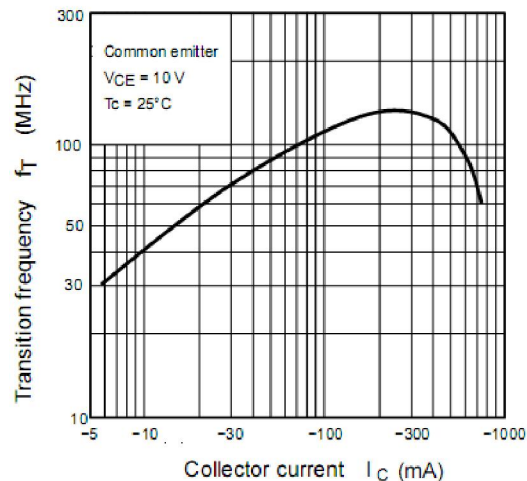


Fig.3 Current Gain-Bandwidth Product

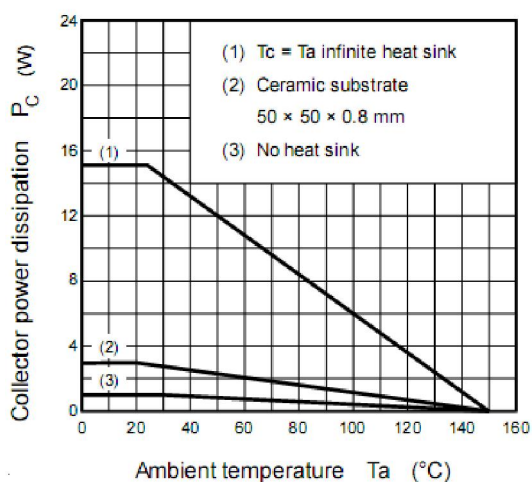


Fig.5. Power Derating

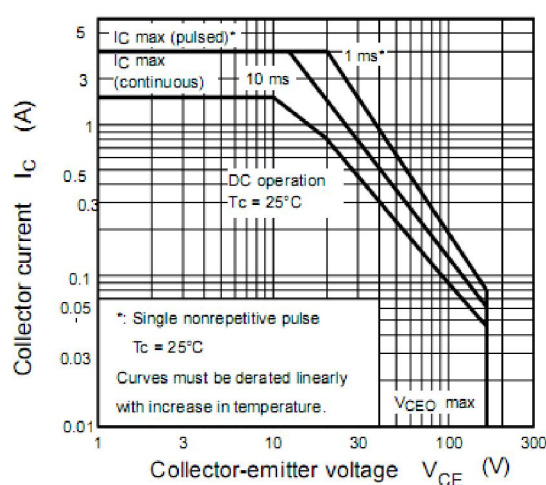
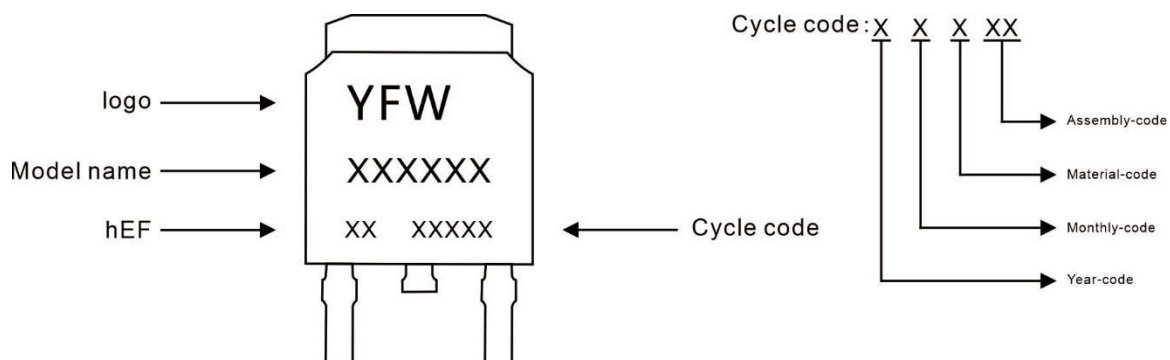


Figure 6. Safe Operating Area

Marking Diagram



Ordering information

Model name	Package	Unit Weight	Base Quantity	Packing Quantity
2SC2983	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

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