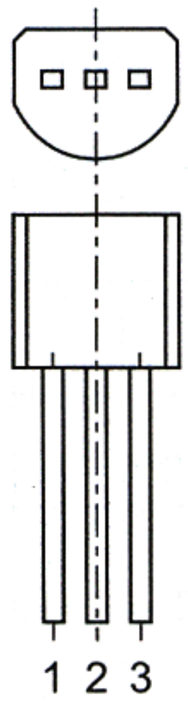
TO-92 Plastic-Encapsulate Transistors

A42 TRANSISTOR(NPN)



TO-92

1.EMITTER

2.BASE

3.COLLECTOR

FEATURES

Power dissipation

P_{CM}: 0.625W (Tamb=25℃)

Collector current

I_{CM}: 0.5 A

Collector-base voltage

$V_{(BR)CBO}$: 300V

Operating and storage junction temperature range

T_J, T_{stg}: -55℃ to + 150℃

ELECTRICAL CHARACTERISTICS

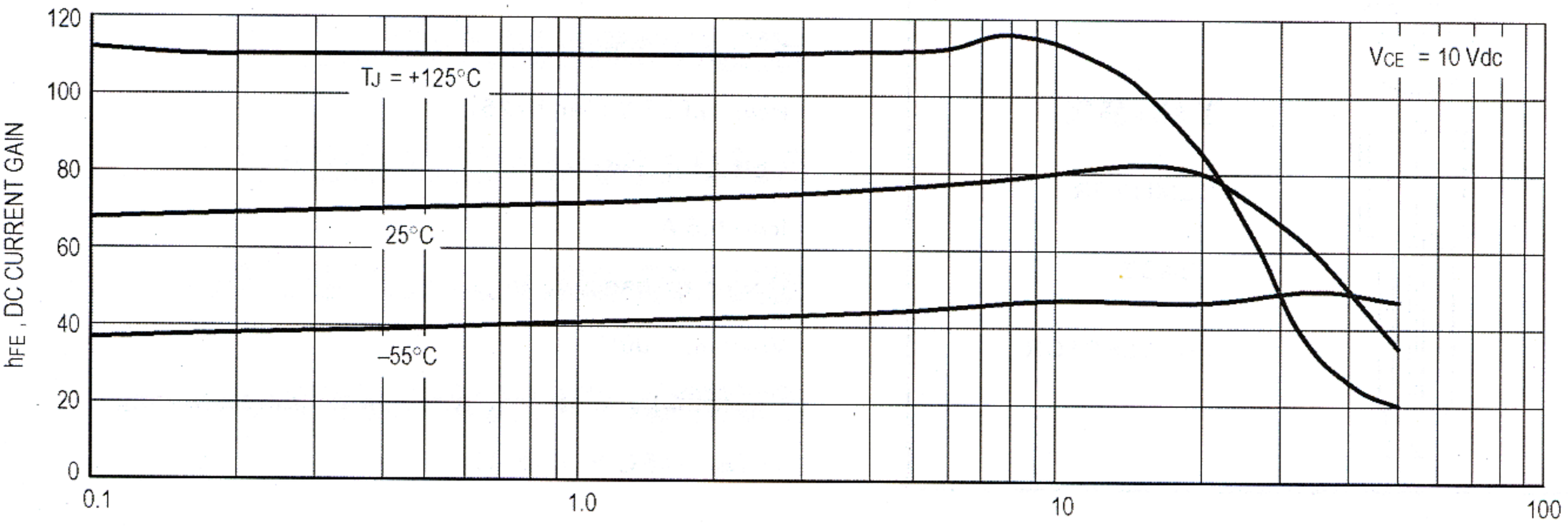
(Tamb=25℃ unless otherwise specified)

Parameter	Symbol	Test conditions	MIN	MAX	UNIT
Collector-base breakdown voltage	$V_{(BR)CBO}$	I_C= 100 μ A, I_E=0	300		V
Collector-emitter breakdown voltage	$V_{(BR)CEO}$	I_C= 1 mA, I_B=0	300		V
Emitter-base breakdown voltage	$V_{(BR)EBO}$	I_E= 10 μ A, I_C=0	5		V
Collector cut-off current	I_{CBO}	V_{CB}= 200 V, I_E=0		0.25	μ A
Emitter cut-off current	I_{EBO}	V_{EB}= 3 V, I_C=0		0.25	μ A
DC current gain	$h_{FE(1)}$	V_{CE}= 10 V, I_C= 1 mA	25		
	$h_{FE(2)}$	V_{CE}= 10 V, I_C= 10 mA	80	250	
	$h_{FE(3)}$	V_{CE}= 10 V, I_C= 50 mA	25		
Collector-emitter saturation voltage	V_{CEsat}	I_C= 20 mA, I_B= 2 mA		0.5	V
Base-emitter saturation voltage	V_{BEsat}	I_C= 20 mA, I_B= 2 mA		0.9	V
Transition frequency	f_T	V_{CE}= 5 V, I_C= 10 mA f =30MHz	50		MHz

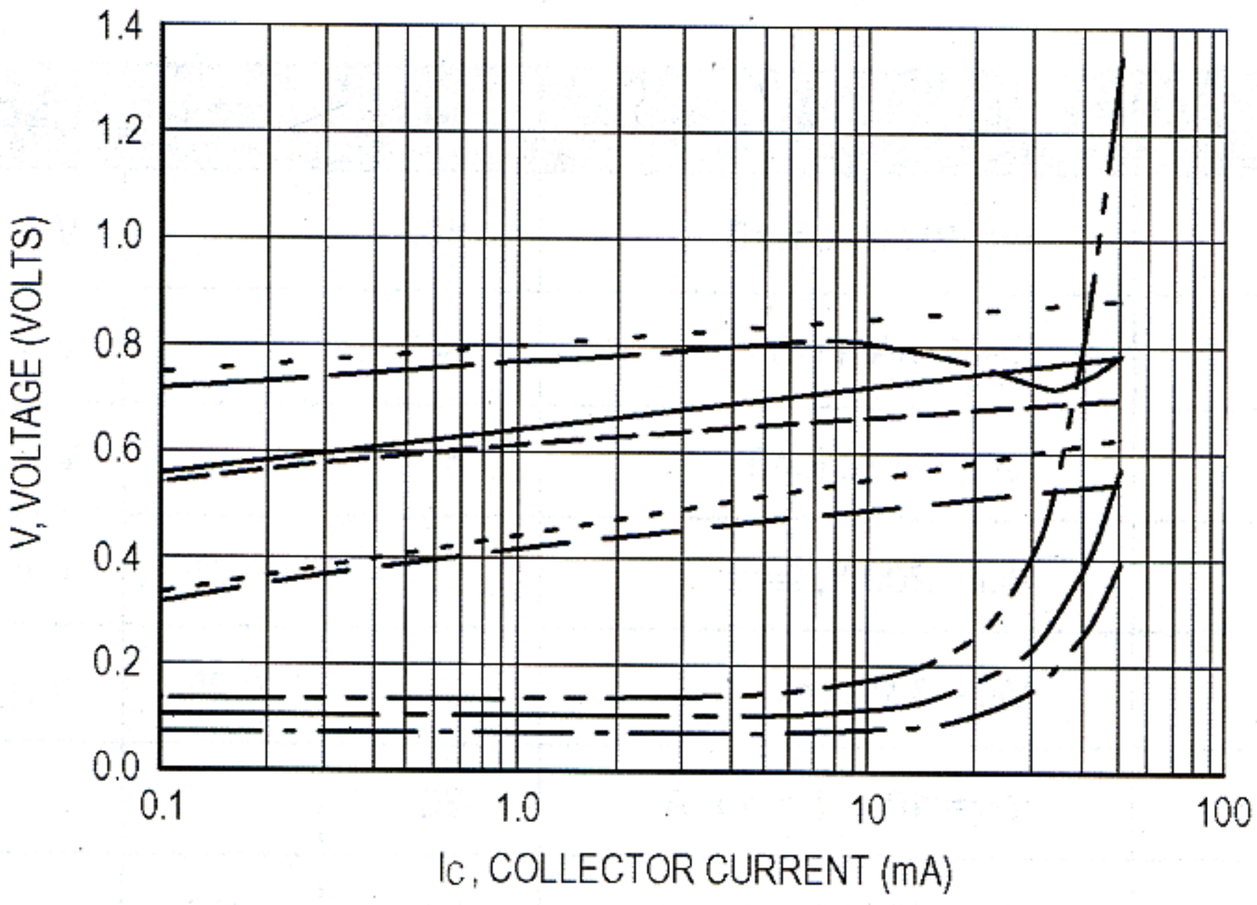
CLASSIFICATION OF $h_{FE(2)}$

Rank	A	B_1	B_2	C
Range	80-100	100-150	150-200	200-250

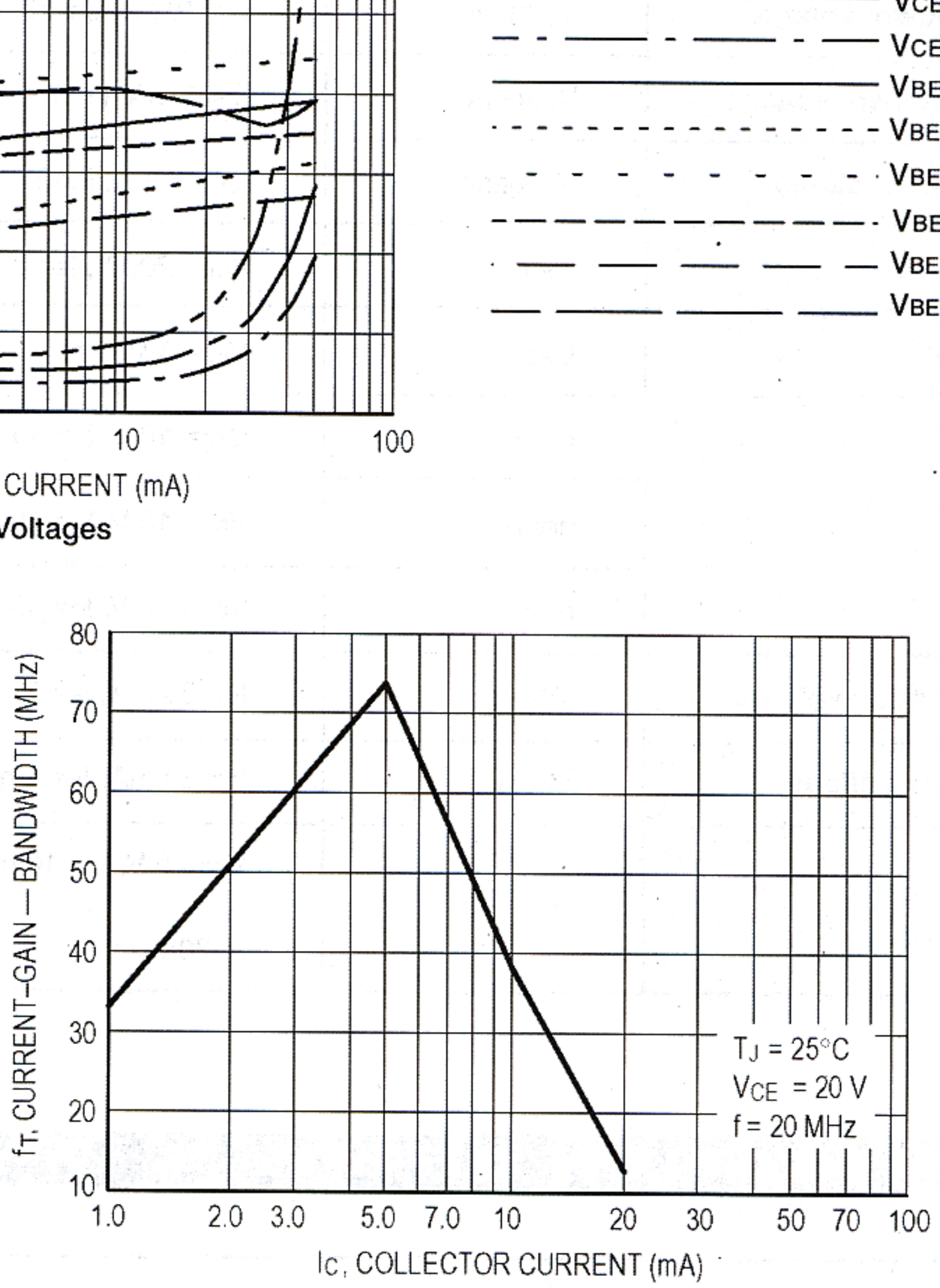
Typical Characteristics



DC Current Gain



"ON" Voltages



Current–Gain — Bandwidth