2SD1499 TRANSISTOR (NPN)

TO-220F

1.BASE
2.COLLECTOR
3.EMITTER

FEATURES

- Extremely Satisfactory Linearity of the Forward Current Transfer Ratio h_{FE}
- Wide Safe Operation Area
- High Transition Frequency f_T
- Full-pack Package which can be Installed to the Heat Sink with One Screw.

MAXIMUM RATINGS (T_a=25℃ unless otherwise noted)

Symbol	Parameter	Value	Unit
V_{CBO}	Collector-Base Voltage	100	V
V_{CEO}	Collector-Emitter Voltage	100	V
V_{EBO}	Emitter-Base Voltage	5	V
I_C	Collector Current -Continuous	5	A
P_C	Collector Power Dissipation	2	W
T_J,T_{stg}	Operation Junction and Storage Temperature Range	-55to+150	℃

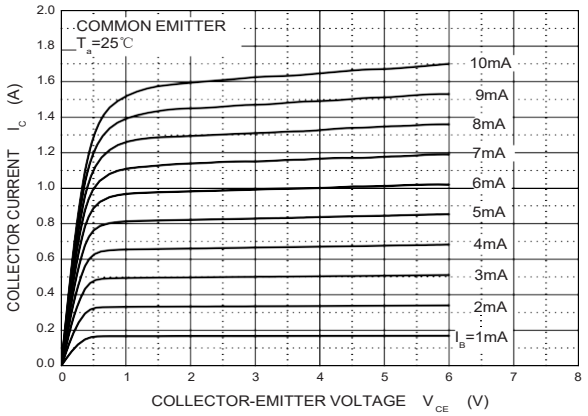
ELECTRICAL CHARACTERISTICS (T_a=25℃ unless otherwise specified)

Parameter	Symbol	Test conditions	Min	Typ	Max	Unit
Collector-base breakdown voltage	$V_{(BR)CBO}$	I_C=100μA,I_E=0	100			V
Collector-emitter breakdown voltage	$V_{(BR)CEO}$	I_C=10mA,I_B=0	100			V
Emitter-base breakdown voltage	$V_{(BR)EBO}$	I_E=100μA,I_C=0	5			V
Collector cut-off current	I_{CEO}	V_{CE}=50V,I_B=0			50	μA
Collector cut-off current	I_{CBO}	V_{CB}=100V,I_E=0			50	μA
Emitter cut-off current	I_{EBO}	V_{EB}=3V,I_C=0			50	μA
DC current gain	$h_{FE(1)}$	V_{CE}=5V,I_C=20mA	20			
	$h_{FE(2)}$	V_{CE}=5V,I_C=1A	60		200	
	$h_{FE(3)}$	V_{CE}=5V,I_C=3A	20			
Collector-emitter saturation voltage	$V_{CE(sat)}$	I_C=3A,I_B=0.3A			2	V
Base-emitter voltage	V_{BE}	V_{CE}=5V,I_C=3A			1.8	V
Collector output capacitance	C_{ob}	V_{CB}=10V,I_E=0,f=1MHz		90		pF
Transition frequency	f_T	V_{CE} = 5 V, I_C = 0.5 A, f = 1 MHz		20		MHz

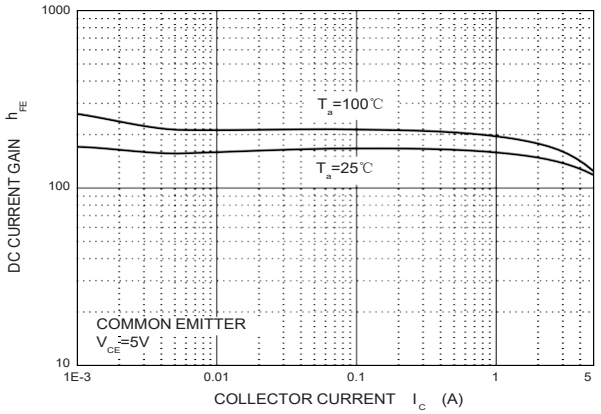
CLASSIFICATION OF h_{FE2}

Rank	Q	P
Range	60-120	100-200

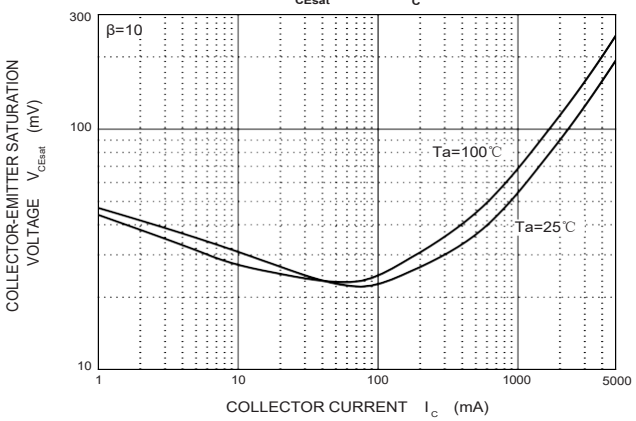
Static Characteristic



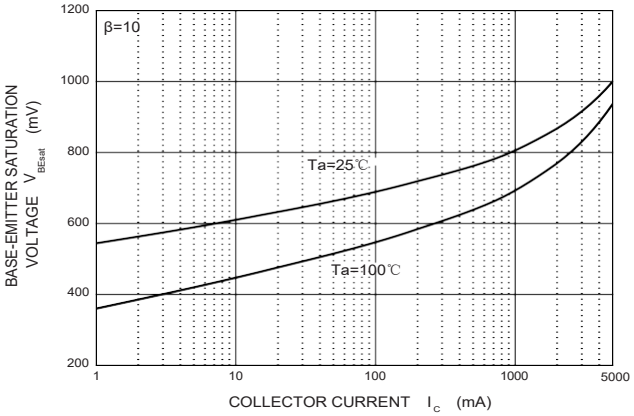
h_{FE} —— I_C



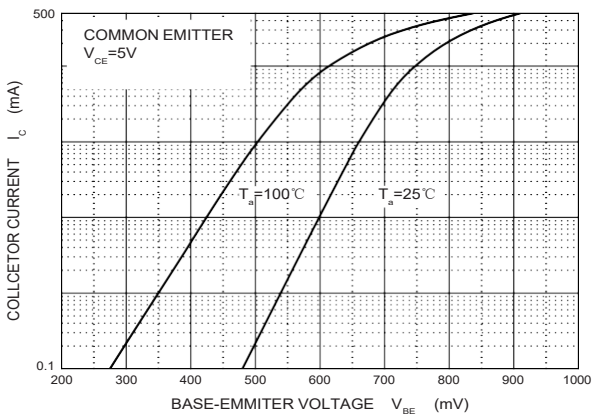
V_{CEsat} —— I_C



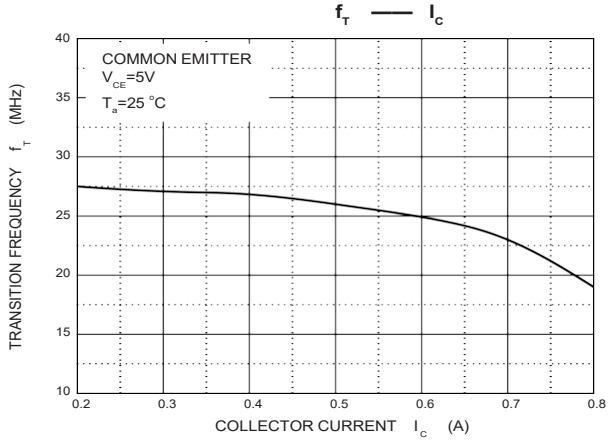
V_{BEsat} —— I_C



I_C —— V_{BE}



f_T —— I_C



Pc —— Ta