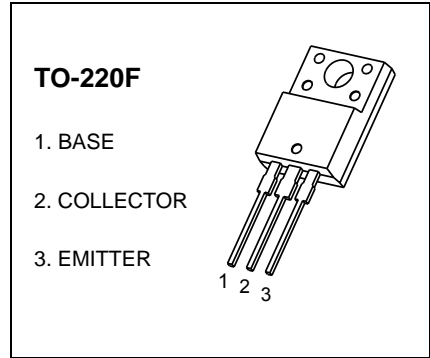


2SD1499 TRANSISTOR (NPN)

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

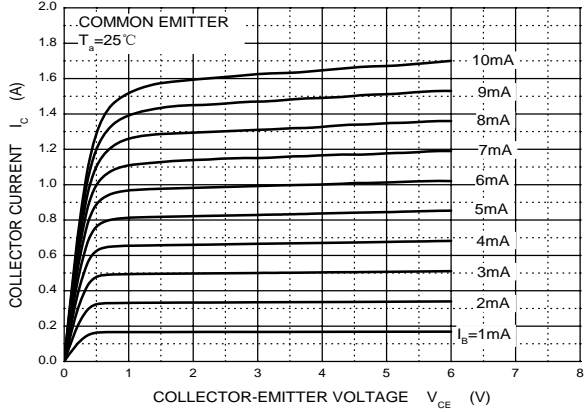
ELECTRICAL CHARACTERISTICS ($T_a=25^{\circ}\text{C}$ unless otherwise specified)

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

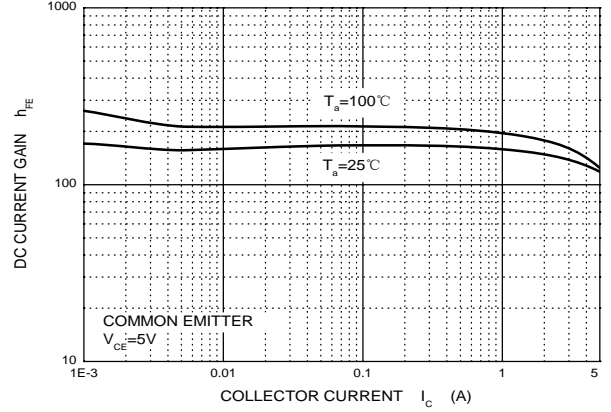
CLASSIFICATION OF h_{FE2}

Rank	Q	P
Range	60-120	100-200

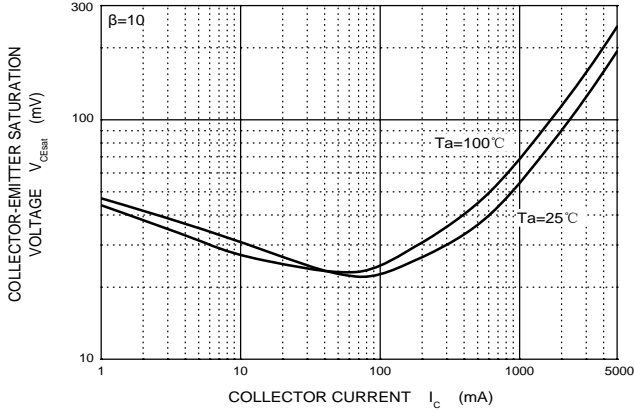
Static Characteristic



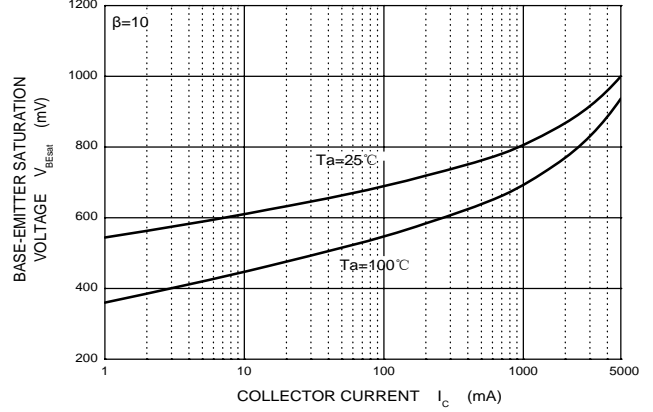
h_{FE} — I_c



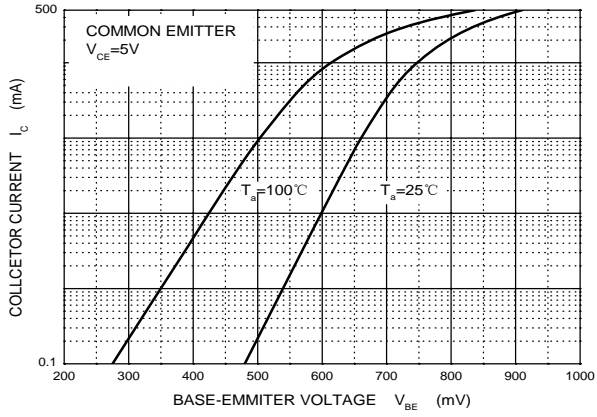
V_{CEsat} — I_c



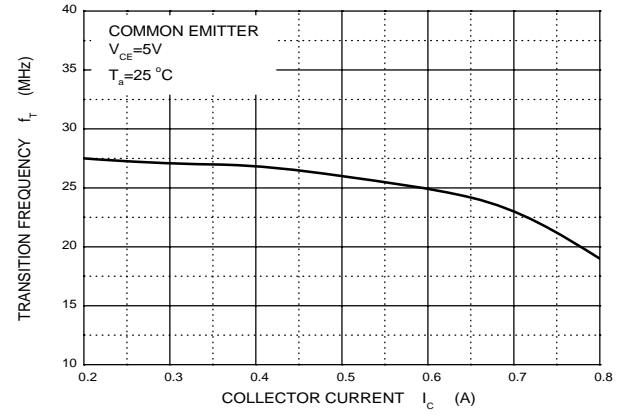
V_{BEsat} — I_c



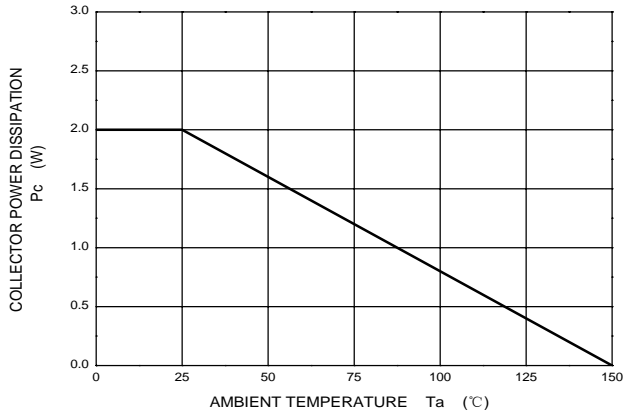
I_c — V_{BE}

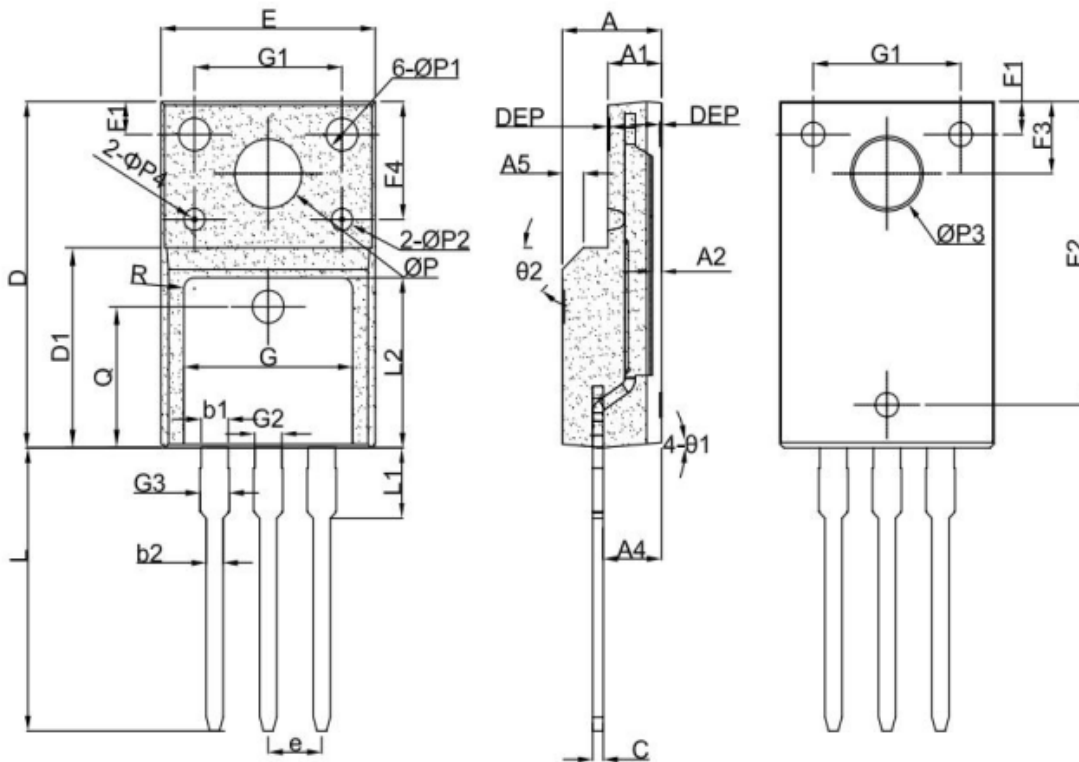


f_T — I_c

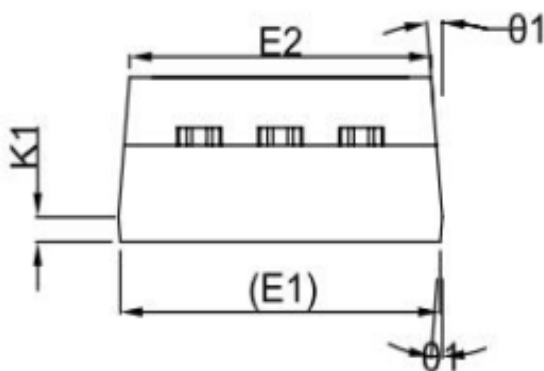


P_c — T_a





图中阴影为麻面Ra0.8-1.2，其他面为亮面Ra0.2-0.4



SYMBOL	mm		
	MIN	NOM	MAX
*A	4.50	4.70	4.90
*A1	2.34	2.54	2.74
*A2	0.38	0.43	0.48
*A4	2.66	2.76	2.86
A5	1.0REF		
b1	1.15	1.20	1.25
*b2	0.75	0.80	0.85
*c	0.45	0.50	0.60
*D	15.67	15.87	16.07
*D1	9.04	9.12	9.20
*e	2.49	2.54	2.59
*E	10.00	10.16	10.32
E1	9.94	10.04	10.14
E2	9.36	9.46	9.56
F1	1.40	1.50	1.60
F2	13.80	13.90	14.00
*F3	3.20	3.30	3.40
F4	5.30	5.40	5.50
G	7.80	8.00	8.20
G1	6.90	7.00	7.10
*G3	1.15	-	1.30
K1	0.65	0.70	0.75
*L	12.78	12.98	13.18
*L1	3.13	3.23	3.33
L2	7.40	7.50	7.60
Q	6.5REF		
R	0.5REF		
*ΦP	3.08	3.18	3.28
ΦP1	1.40	1.50	1.60
ΦP2	0.95	1.00	1.05
ΦP3	3.35	3.40	3.45
ΦP4	0.15	0.20	0.25
*θ1	3°	5°	7°
θ2	-	45°	-
DEP	0.05	0.1	0.15

带*为检验尺寸