

2SD1499-P

**NPN Silicon
Power Transistors**

Features

- Epoxy meets UL 94 V-0 flammability rating
- Moisture Sensitivity Level 1
- Wide Safe Operation Area
- Lead Free Finish/RoHS Compliant (Note1) ("P" Suffix designates RoHS Compliant. See ordering information)
- Halogen free available upon request by adding suffix "-HF"

Maximum Ratings

Symbol	Rating	Rating	Unit
V _{CEO}	Collector-Emitter Voltage	100	V
V _{CBO}	Collector-Base Voltage	100	V
V _{EBO}	Emitter-Base Voltage	5.0	V
I _C	Collector Current-Continuous	5.0	A
P _C	Collector power dissipation	2.0	W
T _J	Junction Temperature	-55 to +150	°C
T _{STG}	Storage Temperature	-55 to +150	°C

Electrical Characteristics @ 25°C Unless Otherwise Specified

Symbol	Parameter	Min	Typ	Max	Units
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OFF CHARACTERISTICS

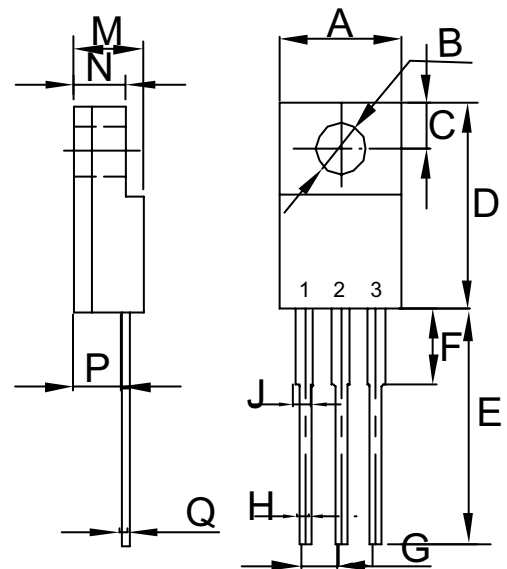
V _{(BR)CBO}	Collector-Base Breakdown Voltage (I _C =100µAdc, I _E =0)	100	---	---	Vdc
V _{(BR)CEO}	Collector-Emitter Breakdown Voltage (I _C =10mAdc, I _B =0)	100	---	---	Vdc
V _{(BR)EBO}	Emitter-Base Breakdown Voltage (I _E =100µAdc, I _C =0)	5	---	---	Vdc
I _{CEO}	Collector-Emitter Cutoff Current (V _{CE} =50Vdc, I _B =0)	---	---	50	µAdc
I _{CBO}	Collector-Base Cutoff Current (V _{CB} =100Vdc, I _E =0)	---	---	50	µAdc
I _{EBO}	Emitter-Base Cutoff Current (V _{EB} =3.0Vdc, I _C =0)	---	---	50	µAdc

ON CHARACTERISTICS

h _{FE(1)}	DC Current Gain (I _C =20mAdc, V _{CE} =5.0Vdc)	20	---	---	
h _{FE(2)}	DC Current Gain (I _C =1.0Adc, V _{CE} =5.0Vdc)	100	---	200	
h _{FE(3)}	DC Current Gain (I _C =3.0Adc, V _{CE} =5.0Vdc)	20	---	---	
V _{CE(sat)}	Collector-Emitter Saturation Voltage (I _C =1.5Adc, I _B =1.5mAdc)	---	---	2.0	Vdc
V _{BE}	Base-Emitter Voltage (V _{CE} =5Vdc, I _C =3Adc)	---	---	1.8	Vdc
C _{ob}	Collector output capacitance (V _{CB} =10Vdc, I _E =0, f=1MHz)	---	90		pF
f _T	Transition frequency (V _{CE} =5Vdc, I _C =0.5A, f=1MHz)	---	20		MHz

Notes: 1. High Temperature Solder Exemption Applied, see EU Directive Annex 7.

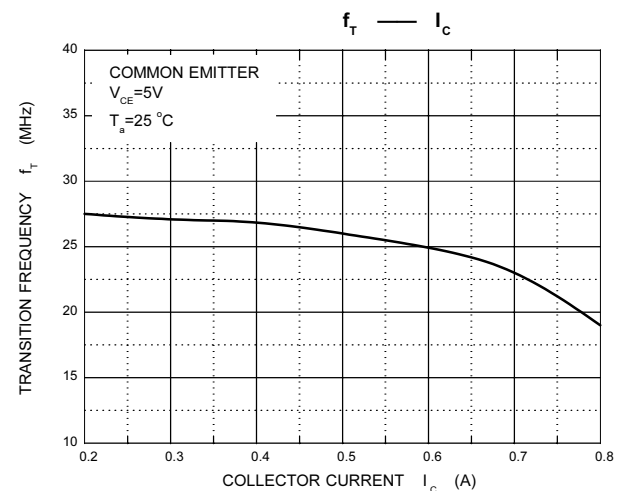
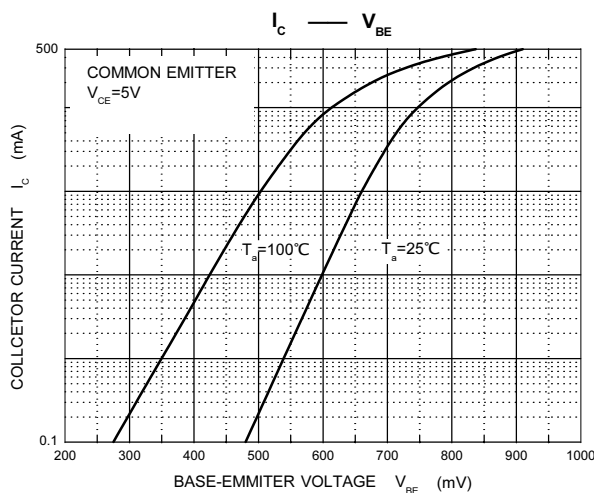
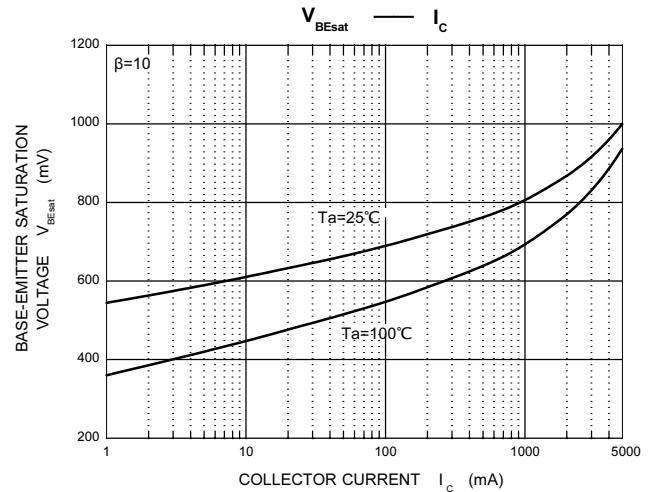
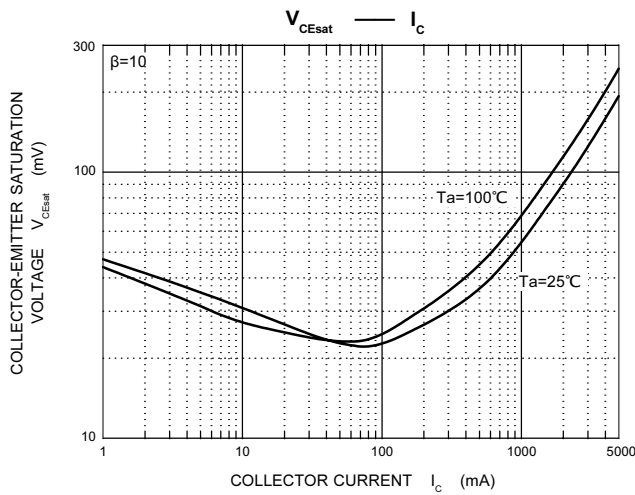
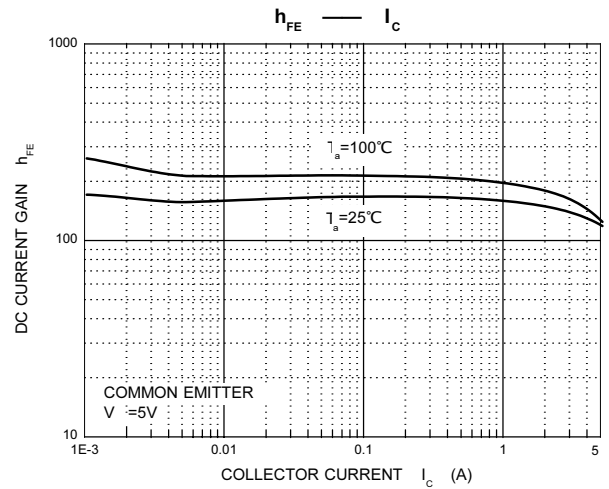
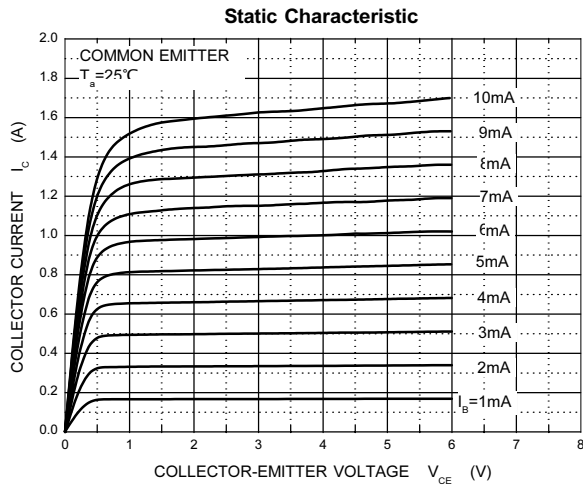
TO-220F



PIN 1. BASE
PIN 2. COLLECTOR
PIN 3. EMITTER

DIM	DIMENSIONS				NOTE
	INCHES		MM		
A	.392	.408	9.96	10.36	
B	.138		3.50		Φ
C	.106 2.70				
D	.583	.598	14.80	15.20	
E	.520 13.20				
F	.142	.158	3.60	4.00	
G	.100 2.54				
H	.020	.035	0.50	0.90	
J	.043	.053	1.10	1.35	
M	.169	.185	4.30	4.70	
N	.104	.126	2.65	3.20	
P	.087	.114	2.20	2.90	
Q	.020	.030	0.50	0.75	

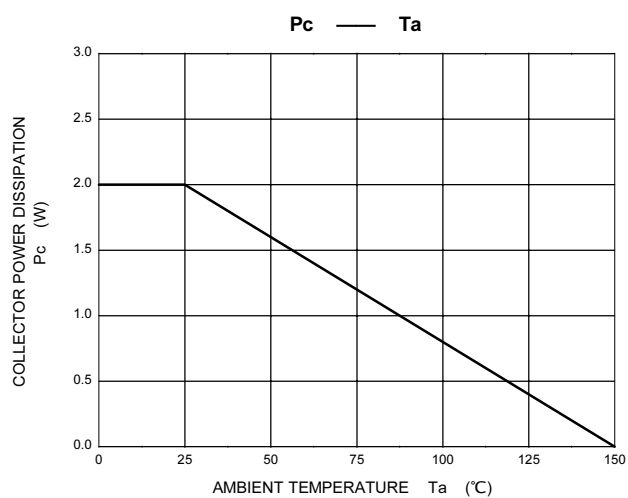
Typical Characteristics



Typical Characteristics

M·C·C·

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Ordering Information :

Device	Packing
Part Number-BP	Bulk;5Kpcs/Box

Note : Adding "-HF" suffix for halogen free, eg. Part Number-BP-HF

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