

# 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

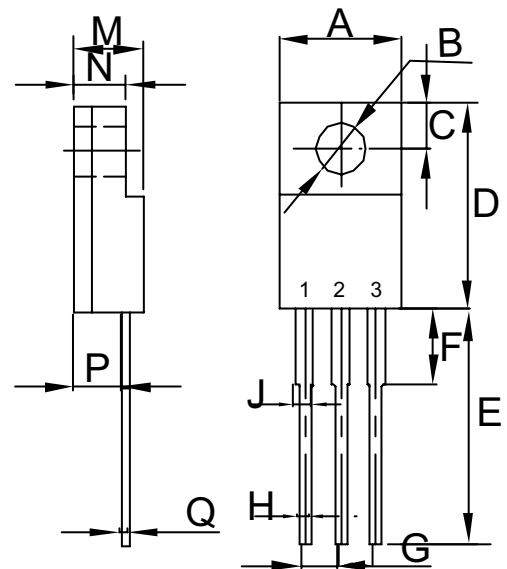
$V_{(BR)CBO}$	Collector-Base Breakdown Voltage ( $I_C=100\mu A$ , $I_E=0$ )	100	---	---	Vdc
$V_{(BR)CEO}$	Collector-Emitter Breakdown Voltage ( $I_C=10mA$ , $I_E=0$ )	100	---	---	Vdc
$V_{(BR)EBO}$	Emitter-Base Breakdown Voltage ( $I_E=100\mu A$ , $I_C=0$ )	5	---	---	Vdc
$I_{CEO}$	Collector-Emitter Cutoff Current ( $V_{CE}=50Vdc$ , $I_B=0$ )	---	---	50	$\mu A$
$I_{CBO}$	Collector-Base Cutoff Current ( $V_{CB}=100Vdc$ , $I_E=0$ )	---	---	50	$\mu A$
$I_{EBO}$	Emitter-Base Cutoff Current ( $V_{EB}=3.0Vdc$ , $I_C=0$ )	---	---	50	$\mu A$

#### ON CHARACTERISTICS

$h_{FE(1)}$	DC Current Gain ( $I_C=20mA$ , $V_{CE}=5.0Vdc$ )	20	---	---	
$h_{FE(2)}$	DC Current Gain ( $I_C=1.0A$ , $V_{CE}=5.0Vdc$ )	100	---	200	
$h_{FE(3)}$	DC Current Gain ( $I_C=3.0A$ , $V_{CE}=5.0Vdc$ )	20	---	---	
$V_{CE(sat)}$	Collector-Emitter Saturation Voltage ( $I_C=1.5A$ , $I_B=1.5mA$ )	---	---	2.0	Vdc
$V_{BE}$	Base-Emitter Voltage ( $V_{CE}=5Vdc$ , $I_C=3A$ )	---	---	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.

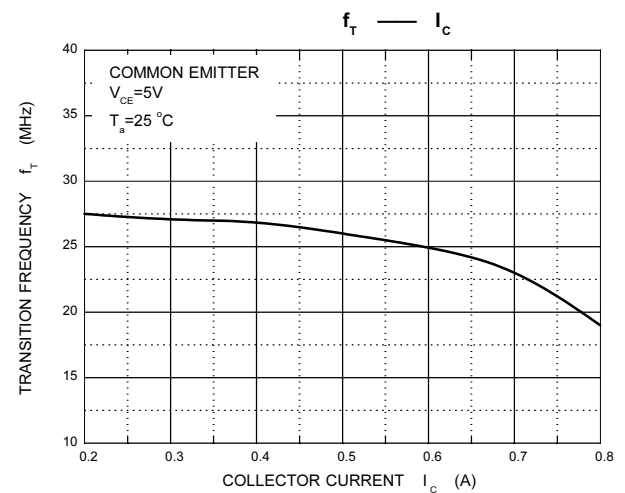
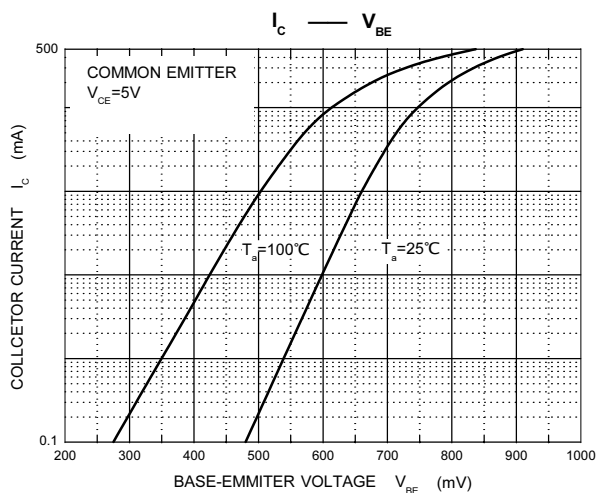
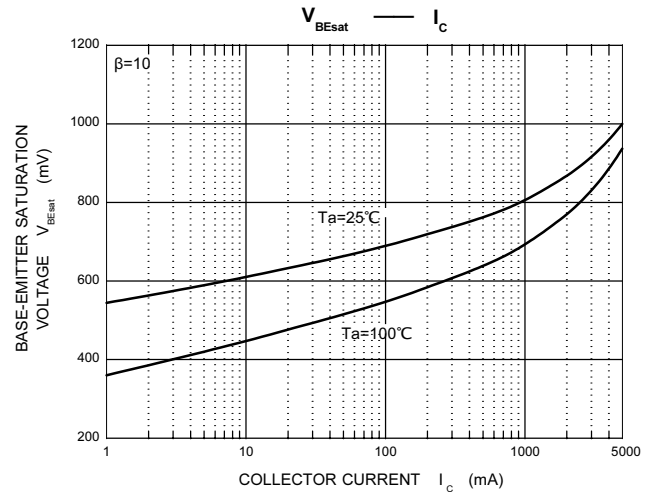
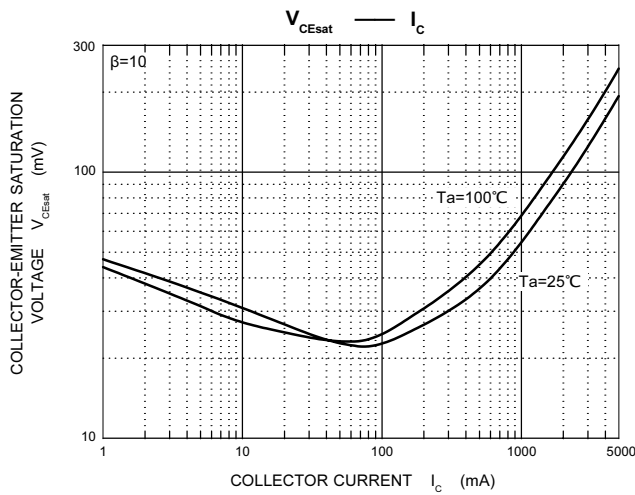
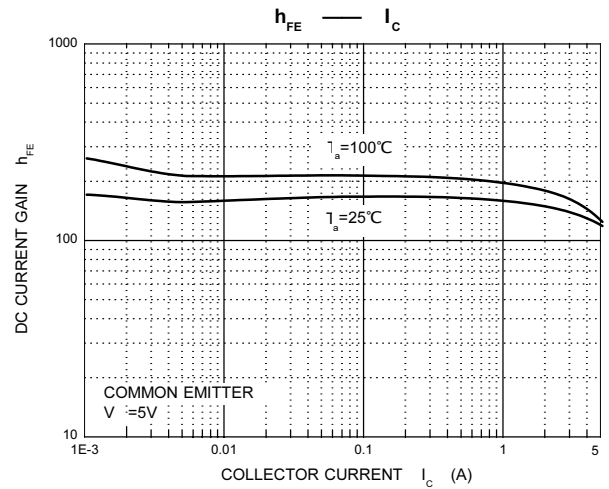
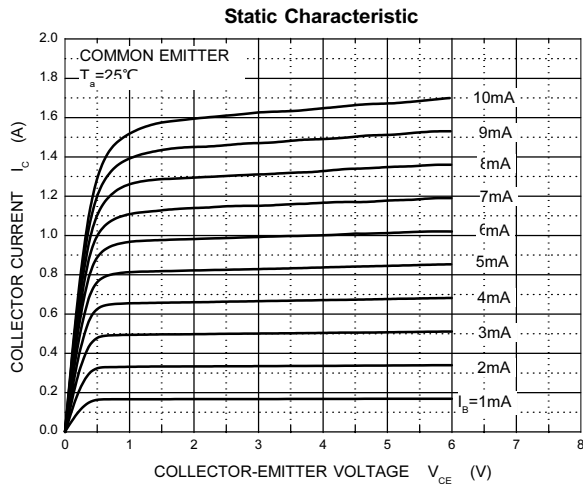
### TO-220F



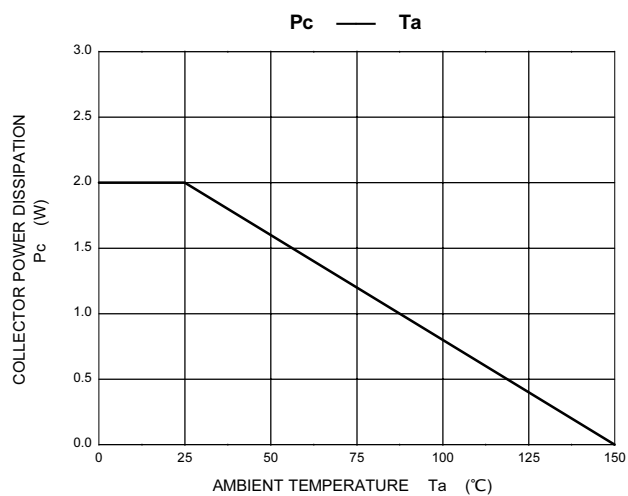
PIN 1. BASE  
PIN 2. COLLECTOR  
PIN 3. EMITTER

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



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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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