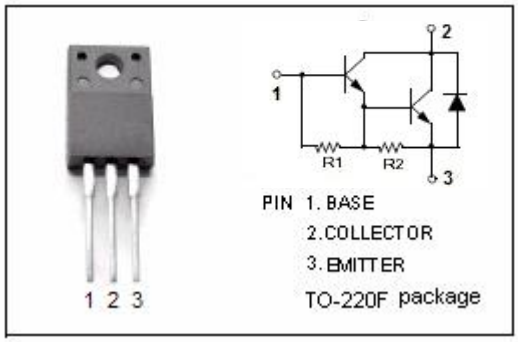
isc Silicon NPN Darlington Power Transistor — TIP122FP

DESCRIPTION

- High DC Current Gain-
  : h_{FE} = 1000(Min)@ I_C= 3A
- Collector-Emitter Sustaining Voltage-
  : $V_{CEO(SUS)}$ = 100V(Min)
- Low Collector-Emitter Saturation Voltage-
  : $V_{CE(sat)}$ = 2.0V(Max)@ I_C= 3A
  = 4.0V(Max)@ I_C= 5A
- Complement to Type TIP127FP
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

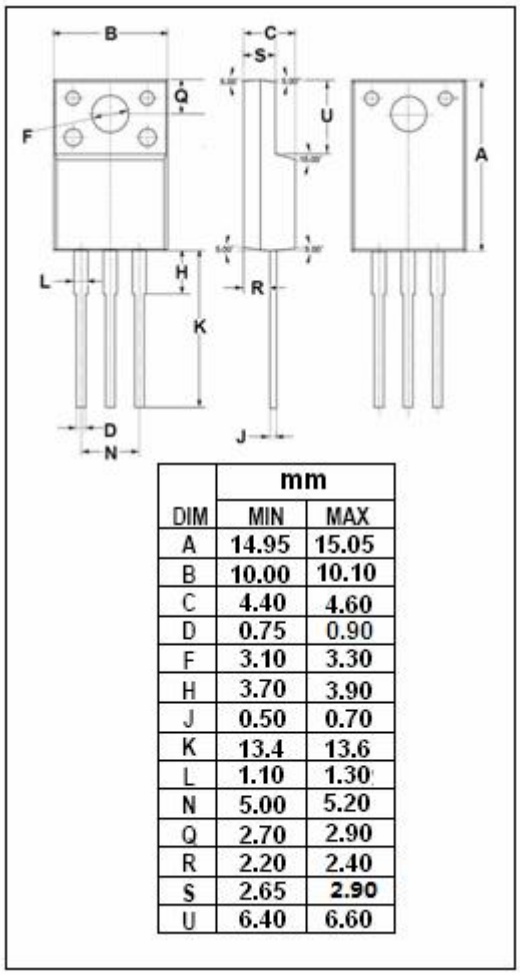


APPLICATIONS

- Designed for general purpose amplifier and low speed switching applications.

ABSOLUTE MAXIMUM RATINGS (T_a=25℃)

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
I_{CM}	Collector Current-Peak	8	A
I_B	Base Current	100	mA
P_C	Collector Power Dissipation T_C=25℃	29	W
	Collector Power Dissipation T_a=25℃	2	
T_j	Junction Temperature	150	℃
T_{stg}	Storage Temperature Range	-65~150	℃



DIM	mm MIN	mm MAX
A	14.95	15.05
B	10.00	10.10
C	4.40	4.60
D	0.75	0.90
F	3.10	3.30
H	3.70	3.90
J	0.50	0.70
K	13.4	13.6
L	1.10	1.30
N	5.00	5.20
Q	2.70	2.90
R	2.20	2.40
S	2.65	2.90
U	6.40	6.60

THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	MAX	UNIT
$R_{th\ j\text{-}c}$	Thermal Resistance,Junction to Case	4.3	℃/W
$R_{th\ j\text{-}a}$	Thermal Resistance,Junction to Ambient	62.5	℃/W

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ELECTRICAL CHARACTERISTICS

T_C=25℃ unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP.	MAX	UNIT
$V_{CEO(SUS)}$	Collector-Emitter Sustaining Voltage	I_C= 30mA, I_B= 0	100			V
$V_{CE(sat)-1}$	Collector-Emitter Saturation Voltage	I_C= 3A ,I_B= 12mA			2.0	V
$V_{CE(sat)-2}$	Collector-Emitter Saturation voltage	I_C= 5A ,I_B= 20mA			4.0	V
$V_{BE(on)}$	Base-Emitter On Voltage	I_C= 3.0A ; V_{CE}= 3V			2.5	V
I_{CBO}	Collector Cutoff Current	V_{CB}= 100V, I_E= 0			0.2	mA
I_{CEO}	Collector Cutoff Current	V_{CE}= 50V, I_B= 0			0.5	mA
I_{EBO}	Emitter Cutoff Current	V_{EB}= 5V; I_C= 0			2	mA
h_{FE-1}	DC Current Gain	I_C= 0.5A ; V_{CE}= 3V	1000			
h_{FE-2}	DC Current Gain	I_C= 3.0A ; V_{CE}= 3V	1000			