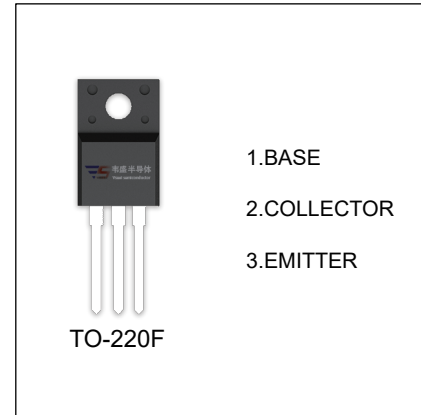


**TIP120F,121F,122F** DARLINGTON TRANSISTOR (NPN)

**TIP125F,126F,127F** DARLINGTON TRANSISTOR (PNP)

**FEATURES**

- Medium Power Complementary Silicon Transistors



**MAXIMUM RATINGS (Ta=25°C unless otherwise noted)**

Symbol	Parameter	TIP120F TIP125F	TIP121F TIP126F	TIP122F TIP127F	Unit
V <sub>CBO</sub>	Collector-Base Voltage	60	80	100	V
V <sub>CEO</sub>	Collector-Emitter Voltage	60	80	100	V
V <sub>EBO</sub>	Emitter-Base Voltage	5			V
I <sub>C</sub>	Collector Current -Continuous	5			A
P <sub>C</sub>	Collector Power Dissipation	2			W
R <sub>θJA</sub>	Thermal Resistance, Junction to Ambient	62.5			°C/W
R <sub>θJC</sub>	Thermal Resistance, Junction to Case	1.92			°C/W
T <sub>J</sub> ,T <sub>stg</sub>	Operation Junction and Storage Temperature Range	-55~+150			°C

**ELECTRICAL CHARACTERISTICS (Ta=25°C unless otherwise specified)**

Parameter	Symbol	Test conditions	Min	Max	Unit
Collector-base breakdown voltage	TIP120F, TIP125F TIP121F, TIP126F TIP122F, TIP127F	V <sub>(BR)CBO</sub>	I <sub>C</sub> = 1mA, I <sub>E</sub> =0	60 80 100	V
Collector-emitter breakdown voltage	TIP120F, TIP125F TIP121F, TIP126F TIP122F, TIP127F	V <sub>CEO(SUS)</sub>	I <sub>C</sub> = 30mA, I <sub>B</sub> =0	60 80 100	V
Collector cut-off current	TIP120F, TIP125F TIP121F, TIP126F TIP122F, TIP127F	I <sub>CBO</sub>	V <sub>CB</sub> = 60 V, I <sub>E</sub> =0 V <sub>CB</sub> = 80 V, I <sub>E</sub> =0 V <sub>CB</sub> = 100V, I <sub>E</sub> =0	0.2	mA
Collector cut-off current	TIP120F, TIP125F TIP121F, TIP126F TIP122F, TIP127F	I <sub>CEO</sub>	V <sub>CE</sub> =30 V, I <sub>B</sub> =0 V <sub>CE</sub> =40 V, I <sub>B</sub> =0 V <sub>CE</sub> =50 V, I <sub>B</sub> =0	0.5	mA
Emitter cut-off current		I <sub>EBO</sub>	V <sub>EB</sub> =5 V, I <sub>C</sub> =0	2	mA
DC current gain		h <sub>FE(1)</sub>	V <sub>CE</sub> = 3V, I <sub>C</sub> =0.5A	1000	
		h <sub>FE(2)</sub>	V <sub>CE</sub> = 3V, I <sub>C</sub> =3 A	1000	12000
Collector-emitter saturation voltage		V <sub>CE(sat)</sub>	I <sub>C</sub> =3A, I <sub>B</sub> =12mA I <sub>C</sub> =5 A, I <sub>B</sub> =20mA	2 4	V
Base-emitter voltage		V <sub>BE</sub>	V <sub>CE</sub> =3V, I <sub>C</sub> =3 A	2.5	V
Output Capacitance	TIP125F, TIP126F, TIP127F TIP120F, TIP121F, TIP122F	C <sub>ob</sub>	V <sub>CB</sub> =10V, I <sub>E</sub> =0, f=0.1MHz	300 200	pF

# Typical Characteristics

# TIP122

