



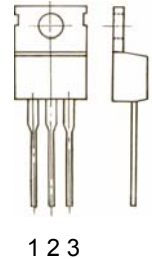
VQ/220 Rucvke/Gpecr uwrcvg Vtcpuksqtu

**TIP120,121,122** Darlington TRANSISTOR (NPN)

**TIP125,126,127** Darlington TRANSISTOR (PNP)

TO-220

- 1.BASE
- 2.COLLECTOR
- 3.EMITTER



**FEATURES**

Medium Power Complementary silicon transistors

**MAXIMUM RATINGS (T<sub>A</sub>=25°C unless otherwise noted)**

Symbol	Parameter	TIP120 TIP125	TIP121 TIP126	TIP122 TIP127	Units
V <sub>CB0</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>	Junction Temperature	150			°C
T <sub>stg</sub>	Storage Temperature	-55to+150			°C

**ELECTRICAL CHARACTERISTICS (T<sub>amb</sub>=25°C unless otherwise specified)**

Parameter	Symbol	Test conditions	MIN	MAX	UNIT
Collector-base breakdown voltage TIP120,TIP125 TIP121,TIP126 TIP122,TIP127	V(BR) <sub>CB0</sub>	I <sub>C</sub> = 1mA, I <sub>E</sub> =0	60 80 100		V
Collector-emitter breakdown voltage TIP120,TIP125 TIP121,TIP126 TIP122,TIP127	V <sub>CEO(SUS)</sub>	I <sub>C</sub> = 30mA, I <sub>B</sub> =0	60 80 100		V
Collector cut-off current TIP120,TIP125 TIP121,TIP126 TIP122,TIP127	I <sub>CB0</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 TIP120,TIP125 TIP121,TIP126 TIP122,TIP127	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		
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 TIP125,TIP126,TIP127 TIP120,TIP121,TIP122	C <sub>ob</sub>	V <sub>CB</sub> =10V, I <sub>E</sub> =0, f=0.1MHZ		300 200	pF

# Typical Characteristics

# TIP120,121,122,125,126,127

