

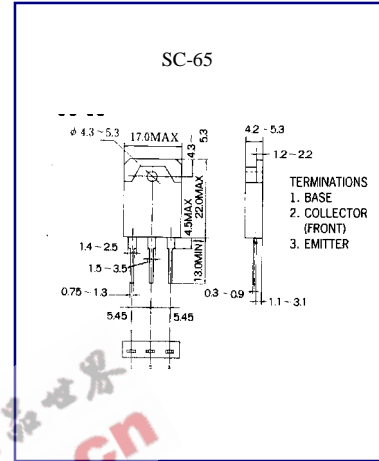


TIP145/146/147

SILICON DARLINGTON TRANSISTOR

HIGH DC CURRENT GAIN

•Complementary to TIP140/141/142



ABSOLUTE MAXIMUM RATINGS ($T_a=25^\circ\text{C}$)

Characteristic	Symbol	Rating	Unit
Collector-Base Voltage :TIP145	V_{CB0}	-60	V
:TIP146		-80	V
:TIP147	V_{CE0}	-100	V
Collector-Emitter Voltage :TIP140		-60	V
:TIP146		-80	V
:TIP147	V_{EBO}	-100	V
Emitter-Base voltage		-5	V
Collector Current (DC)	I_C	-10	A
Collector Current (Pulse)	I_{PC}	-15	A
Base Current (DC)	I_B	-0.5	A
Collector Dissipation ($T_c=25^\circ\text{C}$)	P_C	125	W
Junction Temperature	T_j	150	$^\circ\text{C}$
Storage Temperature	T_{stg}	-50~150	$^\circ\text{C}$

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ELECTRICAL CHARACTERISTICS (Ta=25°C)

Characteristic	Symbol	Test Condition	Min	Typ	Max	Unit
Collector Emitter Sustaining Voltage :TIP145 :TIP146 :TIP147	V _{CEO(SUS)}	I _C =-30mA, I _B =0	60			V
			80			V
			100			V
Collector Cutoff Current :TIP145 :TIP146 :TIP147	I _{CEO}	V _{CE} = -30V, I _B =0 V _{CE} = -40V, I _B =0 V _{CE} = -50V, I _B =0			2	mA
					2	mA
					2	mA
Collector Cutoff Current :TIP145 :TIP146 :TIP147	I _{CBO}	V _{CB} = -60V, I _E =0 V _{CB} = -80V, I _E =0 V _{CB} = -100V, I _E =0			1	mA
					1	mA
					1	mA
Emitter Cutoff Current	I _{EBO}	V _{EB} = -5V, I _C =0			2	mA
DC Current Gain	h _{FE}	V _{CE} =- 4V, I _C =-5A V _{CE} = -4V, I _C =-10A	1000			
			500			
Collector- Emitter Saturation Voltage	V _{CE(sat)}	I _C =-5A, I _B =-10mA I _C =-10A, I _B =-40mA			2	V
					3	V
Base- Emitter Saturation Voltage	V _{BE(sat)}	I _C =-10A, I _B =-40mA			3.5	V
Base- Emitter On Voltage	V _{BE(on)}	V _{CE} = -4V, I _C =-10A			3	V
Delay Time	t _d	V _{CC} = -30V, I _C =-5A		0.15		μS
Rise Time	t _r	I _B =-20mA I _{B1} = I _{B2}		0.55		μS
Storage Time	t _s			2.5		μS
Fall Time	t _f			2.5		μS



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