

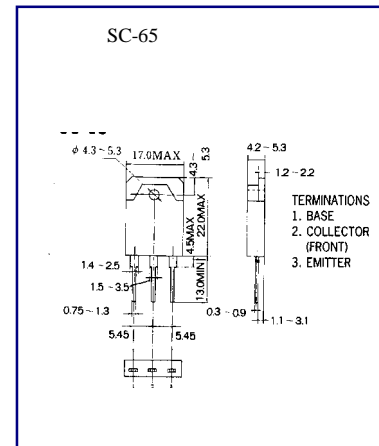


TIP140/141/142

NPN EPITAXIAL SILICON DARLINGTON TRANSISTOR

HIGH DC CURRENT GAIN

•Complementary to TIP145/146/147



ABSOLUTE MAXIMUM RATINGS (T_a=25°C)

Characteristic	Symbol	Rating	Unit
Collector-Base Voltage :TIP140	VCBO	60	V
TIP141		80	V
TIP142		100	V
Collector-Emitter Voltage :TIP140	VCEO	60	V
TIP141		80	V
TIP142		100	V
Emitter-Base voltage	VEBO	5	V
Collector Current (DC)	IC	10	A
Collector Current (Pulse)		15	A
Base Current (DC)	IB	0.5	A
Collector Dissipation (T _c =25°C)	PC	125	W
Junction Temperature	T _j	150	°C
Storage Temperature	T _{stg}	-50~150	°C

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ELECTRICAL CHARACTERISTICS (T_a=25°C)

Characteristic	Symbol	Test Condition	Min	Typ	Max	Unit
Collector Emitter Sustaining Voltage :TIP140	V _{CEO(SUS)}	I _C =30mA, I _B =0	60			V
:TIP141			80			V
:TIP142			100			V
Collector Cutoff Current :TIP140	I _{CEO}	V _{CE} = 30V , I _B =0 V _{CE} = 40V , I _B =0 V _{CE} = 50V , I _B =0			2	mA
:TIP141					2	mA
:TIP142					2	mA
Collector Cutoff Current :TIP140	I _{CBO}	V _{CB} = 60V , I _E =0 V _{CB} = 80V , I _E =0 V _{CB} = 100V , I _E =0			1	mA
:TIP141					1	mA
:TIP142					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			2 3	V V
Base- Emitter Saturation Voltage	V _{BE(sat)}	I _C =10A ,			3.5	V
Base- Emitter On Voltage	V _{BE(on)}	I _B =40mA			3	V
Delay Time	t _d	I _C =10A ,		0.15		μS
Rise Time	t _r	I _B =40mA		0.55		μS
Storage Time	t _s	V _{CE} = 4V ,		2.5		μS
Fall Time	t _f	I _C =10A V _{CC} = 30V , I _C =5A I _B =20mA I _{B1} = I _{B2}		2.5		μS