



TIP132 TIP135 TIP137

COMPLEMENTARY SILICON POWER DARLINGTON TRANSISTORS

- STMicroelectronics PREFERRED SALESTYPES

APPLICATION

- LINEAR AND SWITCHING INDUSTRIAL EQUIPMENT

DESCRIPTION

The TIP132 is a silicon Epitaxial-Base NPN power transistor in monolithic Darlington configuration, mounted in Jedec TO-220 plastic package. It is intended for use in power linear and switching applications.

The complementary PNP type is TIP137 .

Also TIP135 is a PNP type.



ABSOLUTE MAXIMUM RATINGS

Symbol	Parameter	Value		Unit
		NPN	TIP132	
		PNP	TIP135	
V _{CBO}	Collector-Base Voltage (I _E = 0)	60	100	V
V _{CEO}	Collector-Emitter Voltage (I _B = 0)	60	100	V
V _{EBO}	Emitter-Base Voltage (I _C = 0)	5		V
I _C	Collector Current	8		A
I _{CM}	Collector Peak Current	12		A
I _B	Base Current	0.3		A
P _{tot}	Total Dissipation at T _{case} ≤ 25 °C T _{amb} ≤ 25 °C	70		W
		2		W
T _{stg}	Storage Temperature	-65 to 150		°C
T _j	Max. Operating Junction Temperature	150		°C

* For PNP types voltage and current values are negative.

TIP132 / TIP135 / TIP137

THERMAL DATA

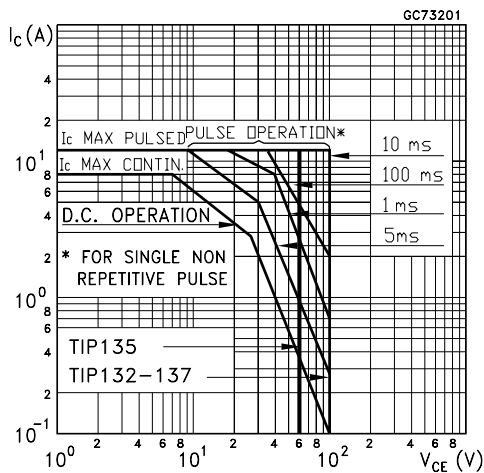
R _{thj-case}	Thermal Resistance Junction-case	Max	1.78	°C/W
R _{thj-amb}	Thermal Resistance Junction-ambient	Max	63.5	°C/W

ELECTRICAL CHARACTERISTICS (T_{case} = 25 °C unless otherwise specified)

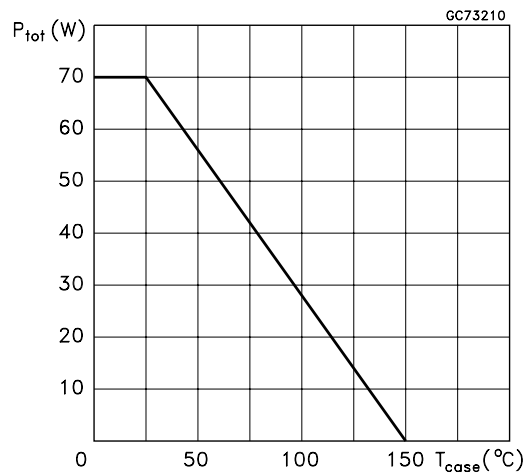
Symbol	Parameter	Test Conditions	Min.	Typ.	Max.	Unit
I _{CEO}	Collector Cut-off Current (I _B = 0)	V _{CE} = Half Rated V _{CEO}			0.5	mA
I _{CBO}	Collector Cut-off Current (I _E = 0)	V _{CB} = Rated V _{CBO}			0.2	mA
I _{EBO}	Emitter Cut-off Current (I _C = 0)	V _{EB} = 5 V			5	mA
V _{CEO(sus)} *	Collector-Emitter Sustaining Voltage (I _B = 0)	I _C = 30 mA for TIP135 for TIP132/TIP137	60 100			V V
V _{CE(sat)} *	Collector-Emitter Saturation Voltage	I _C = 4 A I _C = 6 A			2 4	V V
V _{BE} *	Base-Emitter Voltage	I _C = 4 A V _{CE} = 4 V			2.5	V
h _{FE} *	DC Current Gain	I _C = 1 A I _C = 4 A	500 1000		15000	

* Pulsed: Pulse duration = 300 μs, duty cycle 1.5 %
For PNP types voltage and current values are negative.

Safe Operating Areas



Power Derating Curve



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