

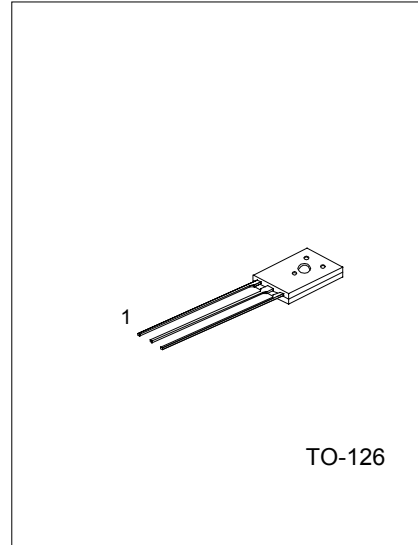
UTC BD136/138/140 PNP EPITAXIAL SILICON TRANSISTOR

PNP SILICON TRANSISTOR

DESCRIPTION

The UTC BD136/BD138/BD140 are silicon epitaxial planer PNP transistor ,designed for use as audio amplifiers and drivers utilizing complementary or quasi complementary circuits.

The complementary NPN types are the BD135/BD137/BD139.



1:EMITTER 2:COLLECTOR 3:BASE

ABSOLUTE MAXIMUM RATINGS

PARAMETER	SYMBOL	RATING	UNIT
Collector-Base Voltage	V_{CBO}	-45	V
BD136		-60	
BD138		-80	
Collector-Emitter Voltage	V_{CEO}	-45	V
BD136		-60	
BD138		-80	
Emitter-Base Voltage	V_{EBO}	-5	V
Collector Current	I_C	-1.5	A
Collector Peak Current	I_{CM}	-3	A
Base Current	I_B	-0.5	A
Total Dissipation	P_{tot}	12.5	W
($T_c \leq 25^\circ C$)		1.25	W
($T_a \leq 25^\circ C$)			
Storage Temperature	T_{stg}	-65 ~ 150	$^\circ C$
Operating Junction Temperature	T_j	150	$^\circ C$

THERMAL CHARACTERISTICS

PARAMETER	SYMBOL	MAX	UNIT
Thermal Resistance, Junction-case	θ_{jc}	10	$^\circ C/W$
Thermal Resistance, Junction-ambient	θ_{JA}	100	$^\circ C/W$

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ELECTRICAL CHARACTERISTICS(T_C=25°C,unless otherwise specified)

PARAMETER	SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT
Collector-Emitter Sustaining Voltage BD136 BD138 BD140	V _{CEQ(sus)} *	I _C =-30 mA, I _B =0	-45 -60 -80			V
Collector Cut-off Current	I _{CBO}	V _{CB} =-30 V, I _E =0 V _{CB} =-30 V, I _E =0, T _C = 125°C			-0.1 -10	μA
Emitter Cut- off Current	I _{EB0}	V _{EB} = -5 V, I _C =0			-10	μA
DC Current Gain	hFE*	I _C =-5 mA, V _{CE} =-2 V	25			
		I _C =-0.5A , V _{CE} =-2 V	25			
		I _C = -150 mA, V _{CE} =-2 V	40		250	
DC Current Gain BD140-10		I _C =-0.5 A, V _{CE} =-2 V	25			
		I _C = -150 mA, V _{CE} =-2 V	63		160	
Collector-Emitter Saturation Voltage	V _{CE(sat)} *	I _C =-0.5 A, I _B = -0.05 A			-0.5	V
Base-Emitter Voltage	V _{BE} *	I _C =-0.5 A, V _{CE} =-2 V			-1	V

* Pulsed: Pulse duration ≒ 300 μs, duty cycle 1.5 %