

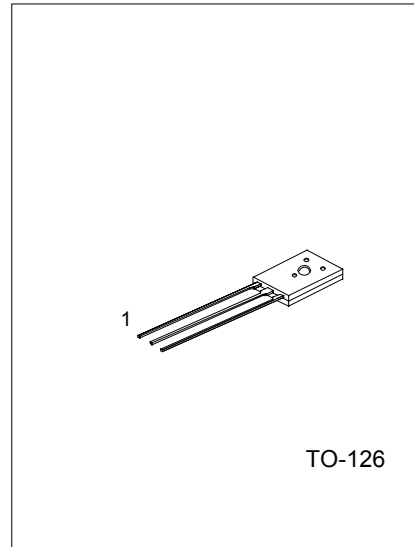
UTC BD136/138/140 PNP EPITAXIAL SILICON TRANSISTOR

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.



TO-126

1:EMITTER 2:COLLECTOR 3:BASE

ABSOLUTE MAXIMUM RATINGS

PARAMETER	SYMBOL	RATING	UNIT
Collector-Base Voltage	V_{CBO}	-45	V
BD136		-60	
BD138 BD140		-80	
Collector-Emitter Voltage	V_{CEO}	-45	V
BD136		-60	
BD138 BD140		-80	
Emitter-Base Voltage	V_{EBO}	-5	V
Collector Current	I_C	-1.5	V
Collector Peak Current	I_{CM}	-3	A
Base Current	I_B	-0.5	A
Total Dissipation	P_{tot}	12.5	W
		($T_c \cong 25^\circ\text{C}$) ($T_a \cong 25^\circ\text{C}$)	1.25
Storage Temperature	T_{stg}	-65 ~ 150	$^\circ\text{C}$
Operating Junction Temperature	T_j	150	$^\circ\text{C}$

THERMAL CHARACTERISTICS

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

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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 _{CEO(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 _{EBO}	V _{EB} = -5 V, I _C = 0			-10	μA
DC Current Gain	h _{FE1} h _{FE2} h _{FE3}	V _{CE} = -2V, I _C = -5 mA, V _{CE} = -2V, I _C = -0.5A, V _{CE} = -2V, I _C = -150 mA,	25 25 40		250	
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 %

CLASSIFICATION OF h_{FE3}

RANK	-6	-10	-16
RANGE	40~100	63~160	100~250

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