



2SD1782

Preliminary

NPN EPITAXIAL SILICON TRANSISTOR

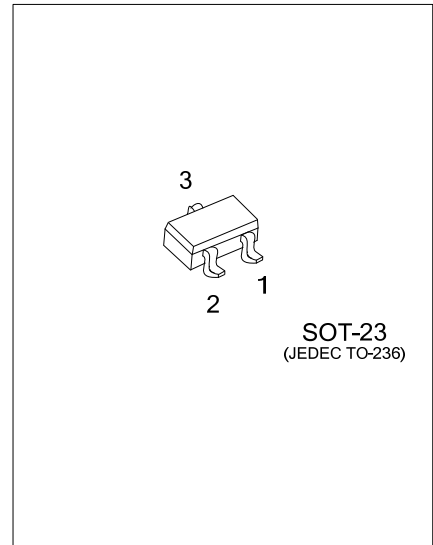
POWER NPN TRANSISTOR

DESCRIPTION

The UTC **2SD1782** is an NPN silicon transistor. it uses UTC's advanced technology to provide customers with high collector-emitter breakdown voltage, low collector-emitter saturation voltage and high DC current gain, etc.

FEATURES

- * High collector-emitter breakdown voltage
- * Low collector-emitter saturation voltage
- * High DC current gain



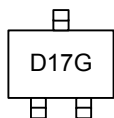
ORDERING INFORMATION

Ordering Number	Package	Pin Assignment			Packing
		1	2	3	
2SD1782G-x-AE3-R	SOT-23	E	B	C	Tape Reel

Note: Pin Assignment: B: Base C: Collector E: Emitter

<p>2SD1782G-x-AE3-R</p> <p>(1) Packing Type (2) Package Type (3) Rank (4) Green Package</p>	<p>(1) R: Tape Reel (2) AE3: SOT-23 (3) x: refer to Classification of h_{FE} (4) G: Halogen Free and Lead Free</p>
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MARKING



■ ABSOLUTE MAXIMUM RATINGS ($T_A=25^\circ\text{C}$, unless otherwise stated)

PARAMETER	SYMBOL	RATINGS	UNIT
Collector-Base Voltage	V_{CBO}	80	V
Collector-Emitter Voltage	V_{CEO}	80	V
Emitter-Base Voltage	V_{EBO}	5	V
Collector Current	I_C	0.5	A
Collector Power Dissipation	P_C	0.2	W
Junction Temperature	T_J	150	$^\circ\text{C}$
Storage Temperature	T_{STG}	-55~+150	$^\circ\text{C}$

Note Absolute maximum ratings are those values beyond which the device could be permanently damaged. Absolute maximum ratings are stress ratings only and functional device operation is not implied.

■ ELECTRICAL CHARACTERISTICS ($T_A=25^\circ\text{C}$, unless otherwise stated)

PARAMETER	SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT
Collector-Base Breakdown Voltage	BV_{CBO}	$I_C=50\mu\text{A}$	80			V
Collector-Emitter Breakdown Voltage	BV_{CEO}	$I_C=2\text{mA}$	80			V
Emitter-Base Breakdown Voltage	BV_{EBO}	$I_E=50\mu\text{A}$	5			V
Collector Cutoff Current	I_{CBO}	$V_{CB}=50\text{V}$			0.5	μA
Emitter Cutoff Current	I_{EBO}	$V_{EB}=4\text{V}$			0.5	μA
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C=500\text{mA}$, $I_B=50\text{mA}$		0.2	0.5	V
DC Current Transfer Ratio	h_{FE}	$V_{CE}=3\text{V}$, $I_C=100\text{mA}$	120		390	
Transition Frequency	f_T	$V_{CE}=10\text{V}$, $I_E=-50\text{mA}$, $f=100\text{MHz}$		120		MHz
Output Capacitance	C_{ob}	$V_{CB}=10\text{V}$, $I_E=0\text{A}$, $f=1\text{MHz}$		7.5		pF

■ CLASSIFICATION OF h_{FE}

RANK	Q	R
RANGE	120~270	180~390

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