



## 2SD1782

## NPN EPITAXIAL SILICON TRANSISTOR

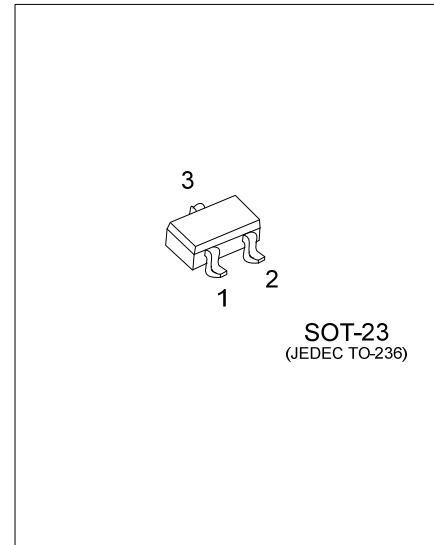
### POWER NPN TRANSISTOR

#### 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



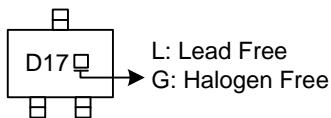
#### ORDERING INFORMATION

Ordering Number		Package	Pin Assignment			Packing
Lead Free	Halogen Free		1	2	3	
2SD1782L-x-AE3-R	2SD1782G-x-AE3-R	SOT-23	B	E	C	Tape Reel

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

<p>2SD1782G-x-AE3-R</p> <ul style="list-style-type: none"> <li>(1) Packing Type</li> <li>(2) Package Type</li> <li>(3) Rank</li> <li>(4) Green Package</li> </ul>	<ul style="list-style-type: none"> <li>(1) R: Tape Reel</li> <li>(2) AE3: SOT-23</li> <li>(3) x: refer to Classification of <math>h_{FE}</math></li> <li>(4) G: Halogen Free and Lead Free, L: Lead Free</li> </ul>
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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.

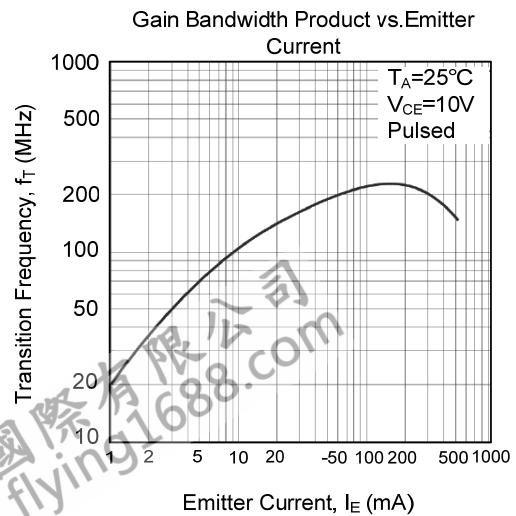
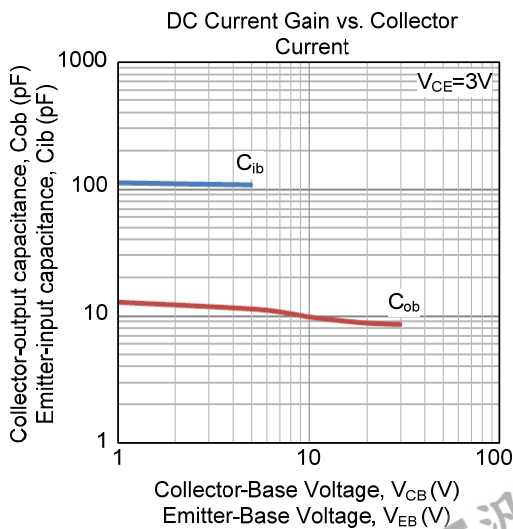
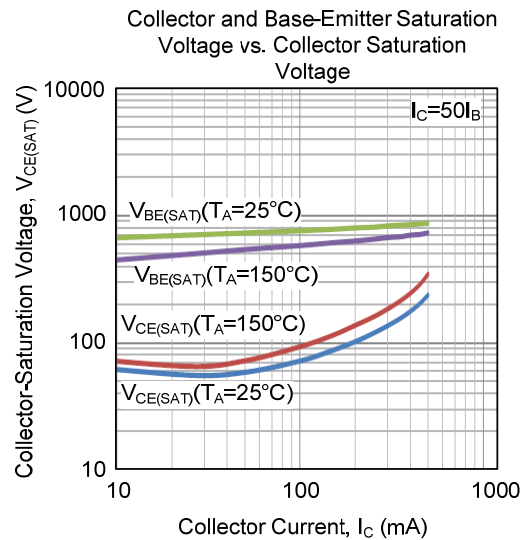
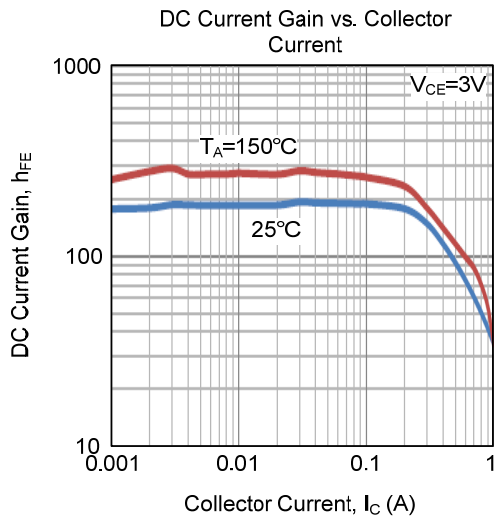
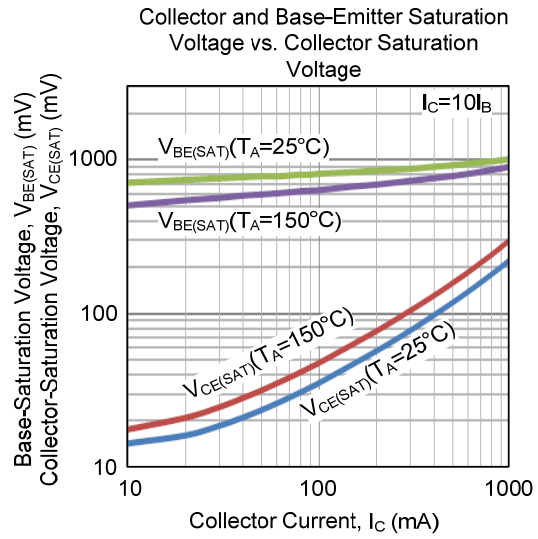
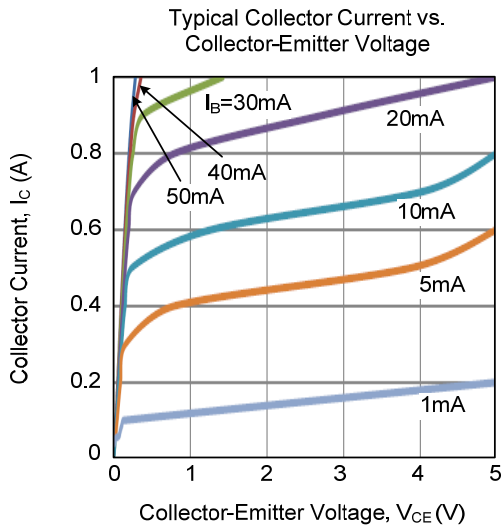
■ ELECTRICAL CHARACTERISTICS ( $T_A=25^\circ\text{C}$ , unless otherwise stated)

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	$\mu\text{A}$
Emitter Cutoff Current	$I_{EBO}$	$V_{EB}=4\text{V}$			0.5	$\mu\text{A}$
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

■ TYPICAL CHARACTERISTICS



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