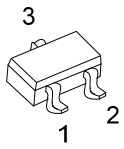
2SD1782

NPN EPITAXIAL SILICON TRANSISTOR

POWER NPN TRANSISTOR



SOT-23
(JEDEC TO-236)

■ 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

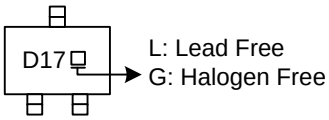
Ordering Number		Package	Pin Assignment			Packing
Lead Free	Halogen Free		1	2	3	
2SD1782L-x-AE3-R	2SD1782G-x-AE3-R	SOT-23	B	E	C	Tape Reel

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

2SD1782G-x-AE3-R
(1)Packing Type
(2)Package Type
(3)Rank
(4)Green Package

(1) R: Tape Reel
(2) AE3: SOT-23
(3) x: refer to Classification of h_{FE}
(4) G: Halogen Free and Lead Free, L: Lead Free

■ MARKING



■ ABSOLUTE MAXIMUM RATINGS (T_A=25°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	°C
Storage Temperature	T_{STG}	-55 ~ +150	°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°C, unless otherwise stated)

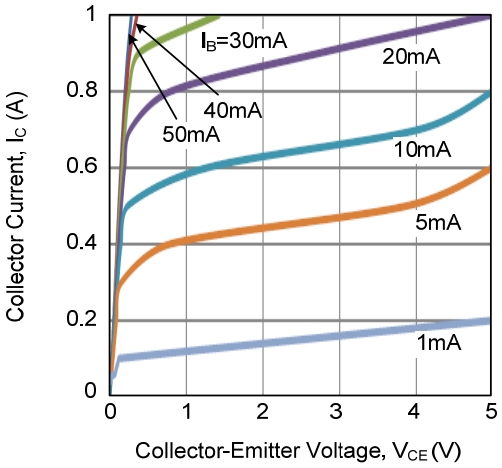
PARAMETER	SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT
Collector-Base Breakdown Voltage	BV_{CBO}	I_C=50μA	80			V
Collector-Emitter Breakdown Voltage	BV_{CEO}	I_C=2mA	80			V
Emitter-Base Breakdown Voltage	BV_{EBO}	I_E=50μA	5			V
Collector Cutoff Current	I_{CBO}	V_{CB}=50V			0.5	μA
Emitter Cutoff Current	I_{EBO}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

■ CLASSIFICATION OF h_{FE}

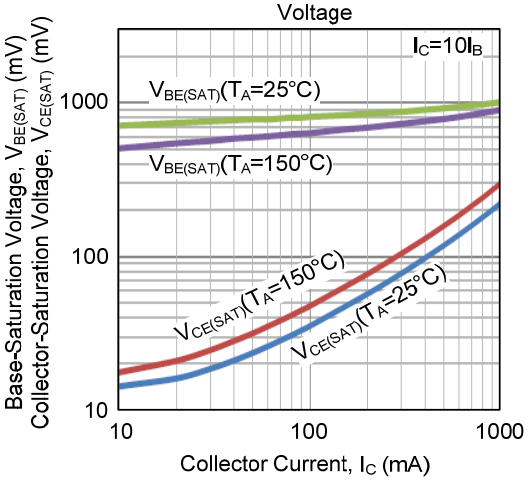
RANK	Q	R
RANGE	120~270	180~390

■ TYPICAL CHARACTERISTICS

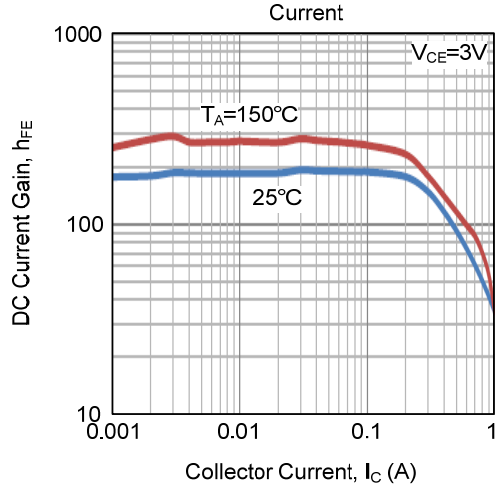
Typical Collector Current vs. Collector-Emitter Voltage



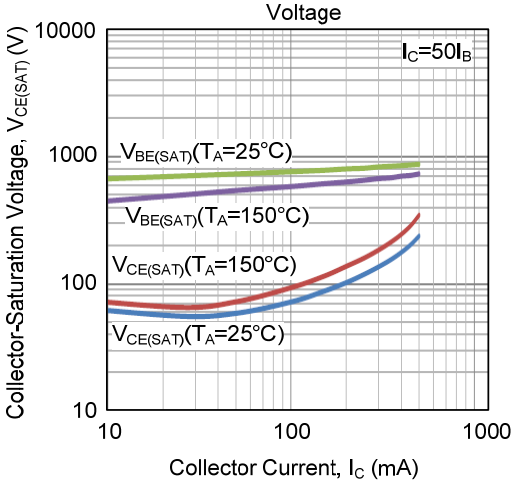
Collector and Base-Emitter Saturation Voltage vs. Collector Saturation Voltage



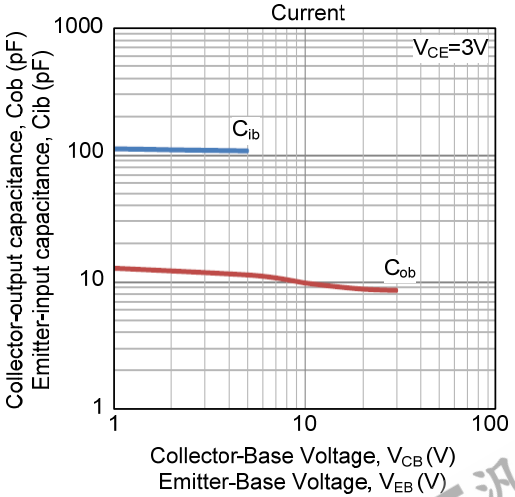
DC Current Gain vs. Collector Current



Collector and Base-Emitter Saturation Voltage vs. Collector Saturation Voltage



DC Current Gain vs. Collector Current



Gain Bandwidth Product vs.Emitter Current