



2SD1664

NPN SILICON TRANSISTOR

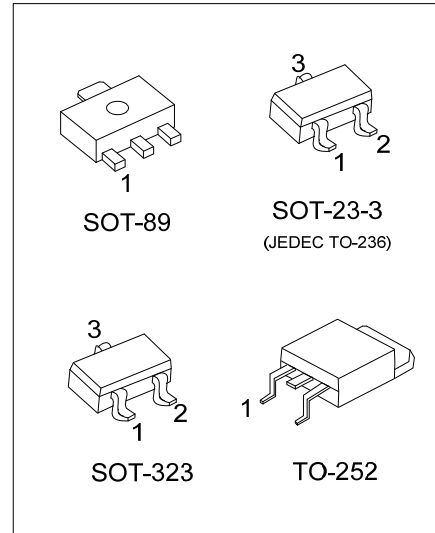
MEDIUM POWER NPN TRANSISTOR

■ DESCRIPTION

The UTC **2SD1664** is an epitaxial planar type NPN silicon transistor.

■ FEATURES

- * Low $V_{CE(SAT)}$: $V_{CE(SAT)} = 0.15V(Typ.)$
($I_C/I_B = 500mA/50mA$)
- * Complement the 2SB1132



■ ORDERING INFORMATION

Ordering Number		Package	Pin Assignment			Packing
Lead Free	Halogen Free		1	2	3	
2SD1664L-x-AB3-R	2SD1664G-x-AB3-R	SOT-89	B	C	E	Tape Reel
2SD1664L-x-AE3-R	2SD1664G-x-AE3-R	SOT-23	B	E	C	Tape Reel
2SD1664L-x-AL3-R	2SD1664G-x-AL3-R	SOT-323	B	E	C	Tape Reel
2SD1664L-x-TN3-R	2SD1664G-x-TN3-R	TO-252	B	C	E	Tape Reel

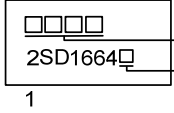
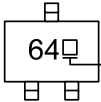
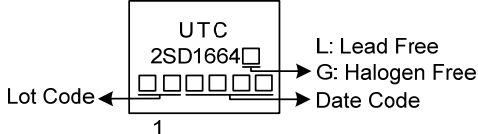
Note: Pin Assignment: B: Base C: Collector E: Emitter

<p>2SD1664G-x-AB3-R</p>	<p>(1) R: Tape Reel (2) AB3: SOT-89, AE3: SOT-23, AL3: SOT-323 TN3: TO-252 (3) x: refer to Classification of h_{FE} (4) G: Halogen Free and Lead Free, L: Lead Free</p>
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NPN SILICON TRANSISTOR

MARKING

PACKAGE	MARKING
SOT-89	 <p> Date Code L: Lead Free G: Halogen Free </p>
SOT-23 SOT-323	 <p> L: Lead Free G: Halogen Free </p>
TO-252	 <p> UTC 2SD1664 L: Lead Free G: Halogen Free Date Code Lot Code </p>

■ ABSOLUTE MAXIMUM RATINGS (T_A=25°C, unless otherwise specified)

PARAMETER		SYMBOL	RATING	UNIT
Collector-Base Voltage		V _{CBO}	40	V
Collector-Emitter Voltage		V _{CEO}	32	V
Emitter-Base Voltage		V _{EBO}	5	V
Collector Current	DC	I _C	1	A
Collector Current (Duty=1/2, P _W =20ms)	Pulse		2	A
Collector Power Dissipation	SOT-89	P _C	0.5	W
	SOT-23		0.3	W
	SOT-323		0.2	W
	TO-252		1.9	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.

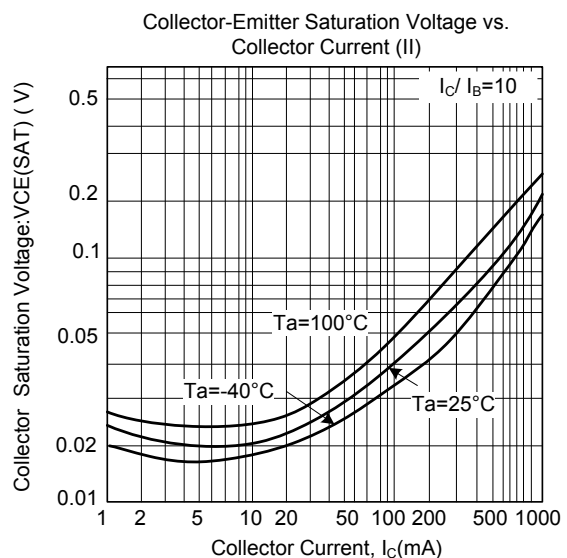
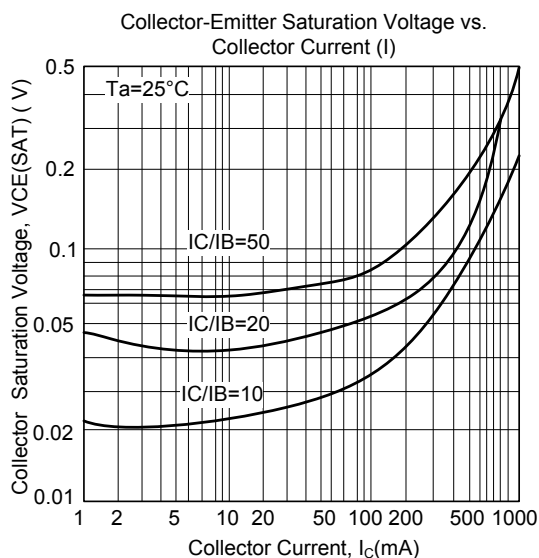
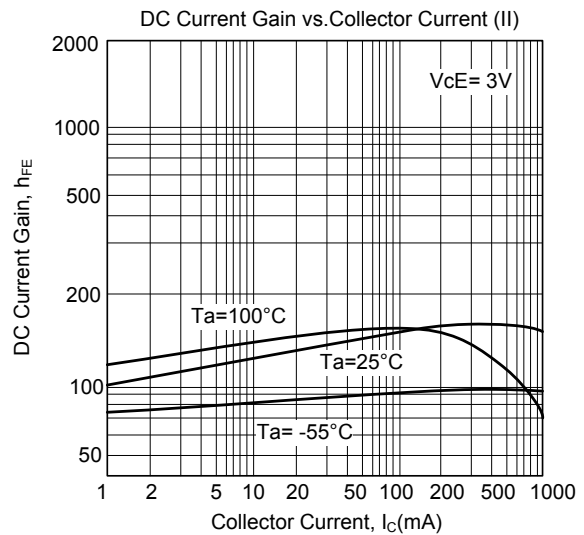
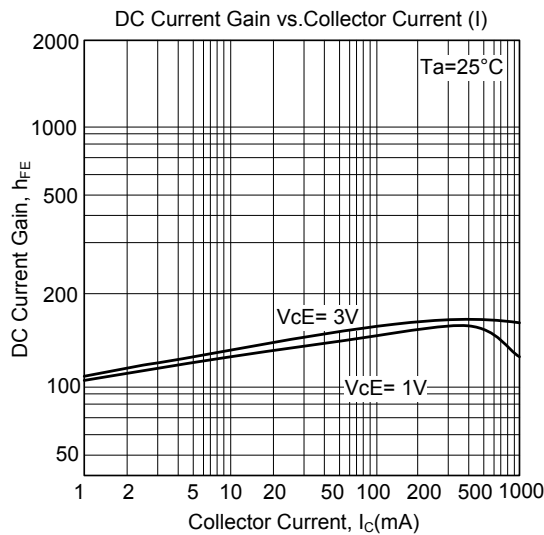
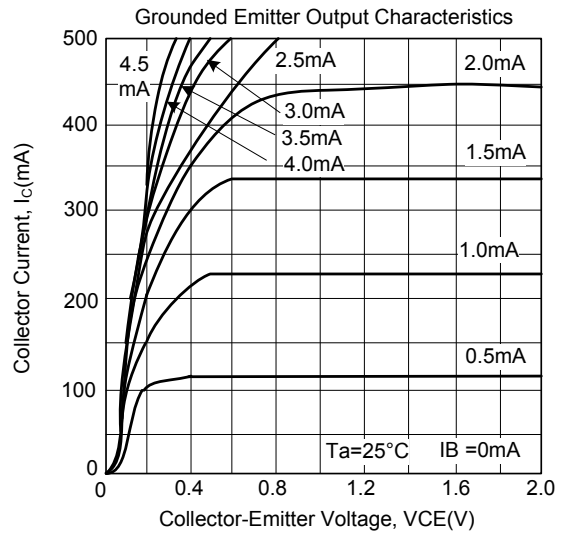
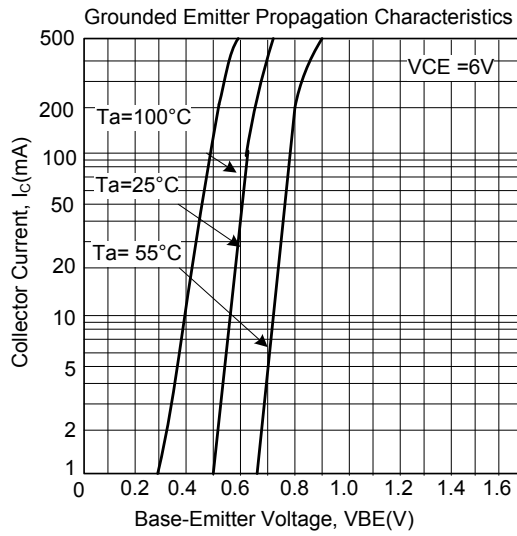
■ ELECTRICAL CHARACTERISTICS (T_A=25°C, unless otherwise specified)

PARAMETER	SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT
Collector Base Breakdown Voltage	BV _{CBO}	I _C = 50μA	40			V
Collector Emitter Breakdown Voltage	BV _{CEO}	I _C = 1mA	32			V
Emitter Base Breakdown Voltage	BV _{EBO}	I _E =50μA	5			V
Collector Cut-Off Current	I _{CBO}	V _{CB} =20V			0.5	μA
Emitter Cut-Off Current	I _{EBO}	V _{EB} = 4V			0.5	μA
DC Current Gain	h _{FE}	V _{CE} = 3V, I _C = 100mA	82		390	
Collector-Emitter Saturation Voltage	V _{CE(SAT)}	I _C /I _B =500mA /50mA		0.15	0.4	V
Transition Frequency	f _T	V _{CE} =5V, I _E =-50mA, f=100MHz		150		MHz
Output Capacitance	C _{ob}	V _{CB} = 10V, I _E = 0A, f=1MHz		15		pF

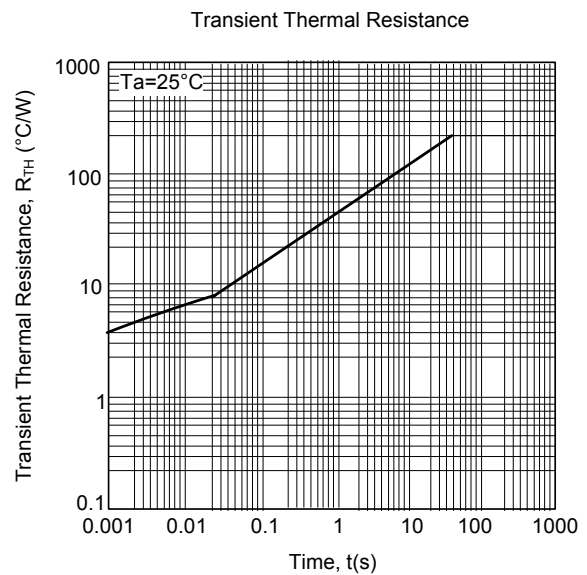
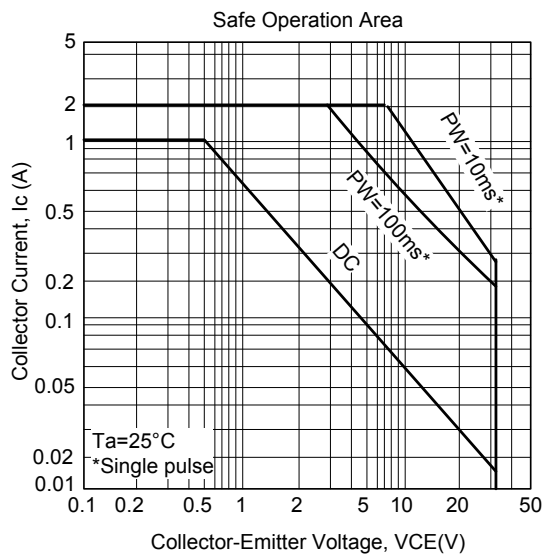
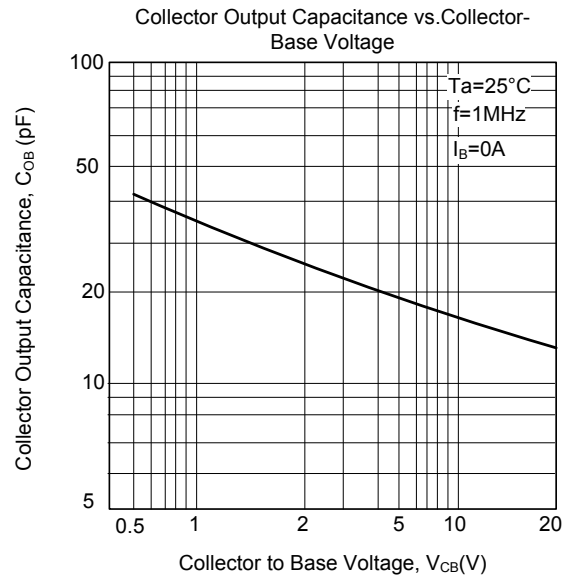
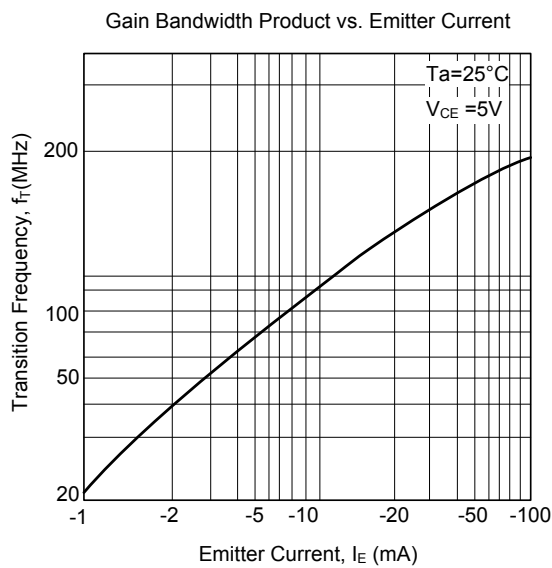
■ CLASSIFICATION OF h_{FE}

RANK	P	Q	R
RANGE	82-180	120-270	180-390

TYPICAL CHARACTERISTICS



■ TYPICAL CHARACTERISTICS (Cont.)



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