



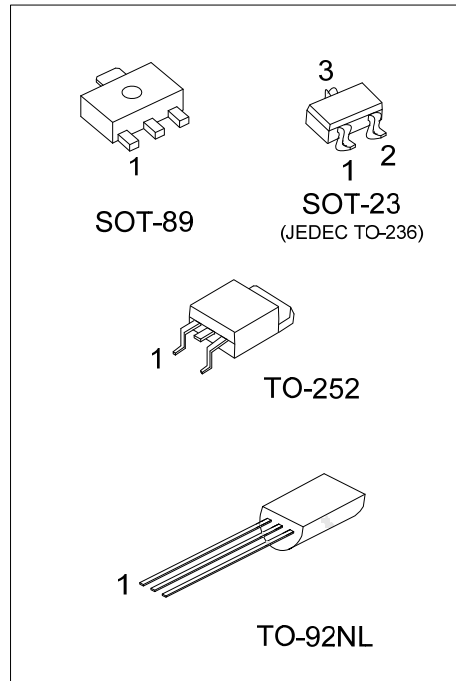
# 2SC2655

## NPN SILICON TRANSISTOR

POWER AMPLIFIER  
 APPLICATIONS POWER  
 SWITCHING APPLICATIONS

■ FEATURES

- \* Low saturation voltage:  $V_{CE(SAT)} = 0.5V$  (Max.)
- \* High speed switching time:  $T_{STG} = 1.0\mu s$  (Typ.)



■ ORDERING INFORMATION

Ordering Number		Package	Pin Assignment			Packing
Lead Free	Halogen Free		1	2	3	
2SC2655L-x-AB3-R	2SC2655G-x-AB3-R	SOT-89	B	C	E	Tape Reel
2SC2655L-x-AE3-R	2SC2655G-x-AE3-R	SOT-23	B	E	C	Tape Reel
2SC2655L-x-TN3-R	2SC2655G-x-TN3-R	TO-252	B	C	E	Tape Reel
2SC2655L-x-T9N-B	2SC2655G-x-T9N-B	TO-92NL	E	C	B	Tape Box
2SC2655L-x-T9N-K	2SC2655G-x-T9N-K	TO-92NL	E	C	B	Bulk

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

<p>2SC2655G-x-AB3-R</p>	<p>(1) B: Tape Box, K: Bulk, R: Tape Reel          (2) AB3: SOT-89, AE3: SOT-23, T9N: TO-92NL          TN3: TO-252          (3) refer to Classification of <math>h_{FE1}</math>          (4) G: Halogen Free and Lead Free, L: Lead Free</p>
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■ MARKING

<p>SOT-23</p>	<p>SOT-89</p>
<p>TO-252</p>	<p>TO-92NL</p>

■ ABSOLUTE MAXIMUM RATINGS (T<sub>A</sub>= 25°C, unless otherwise specified)

PARAMETER		SYMBOL	RATING	UNIT
Collector-Base Voltage		V <sub>CBO</sub>	50	V
Collector-Emitter Voltage		V <sub>CEO</sub>	50	V
Emitter-Base Voltage		V <sub>EBO</sub>	5	V
Collector Current		I <sub>C</sub>	2	A
Collector Current (Pulse) (Note 2)		I <sub>CP</sub>	3	A
Base Current		I <sub>B</sub>	0.5	A
Collector Power Dissipation	SOT-23	P <sub>C</sub>	350	mW
	SOT-89		500	mW
	TO-252		1000	mW
	TO-92NL		900	mW
Junction Temperature		T <sub>J</sub>	+150	°C
Operating Temperature		T <sub>OPR</sub>	-40 ~ +150	°C
Storage Temperature		T <sub>STG</sub>	-55 ~ +150	°C

Notes: 1. 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.

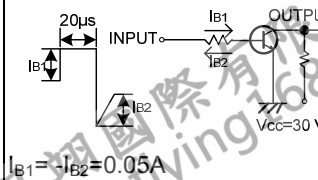
2. P<sub>W</sub> ≤ 16ms, Duty Cycle ≤ 50%.

■ THERMAL DATA

PARAMETER		SYMBOL	RATINGS	UNIT
Junction to Ambient	SOT-23	θ <sub>JA</sub>	417	°C/W
	SOT-89		250	
	TO-252		75	
	TO-92NL		125	
Junction to Case	SOT-23	θ <sub>JC</sub>	208.3	°C/W
	SOT-89		156.3	
	TO-252		12.5	
	TO-92NL		83.3	

Note: Device mounted on FR-4 substrate P<sub>C</sub> board, 2oz copper, with 1inch square copper plate.

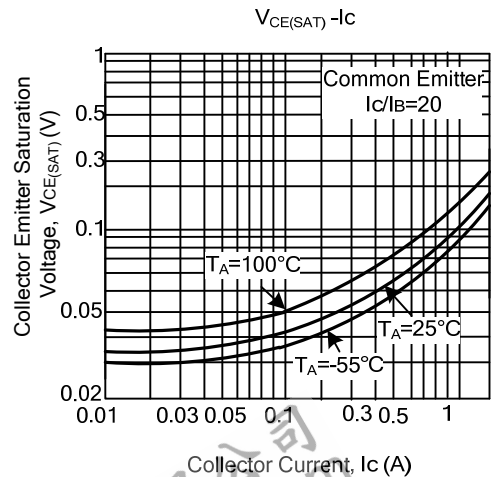
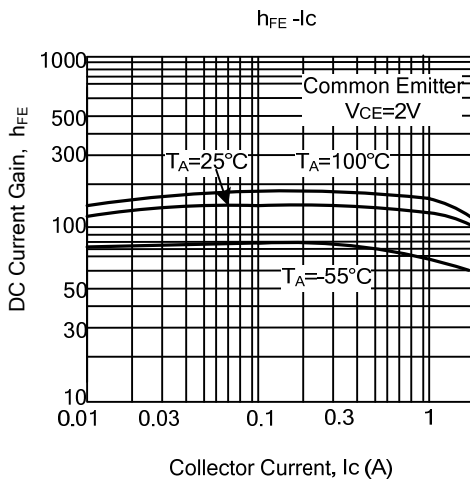
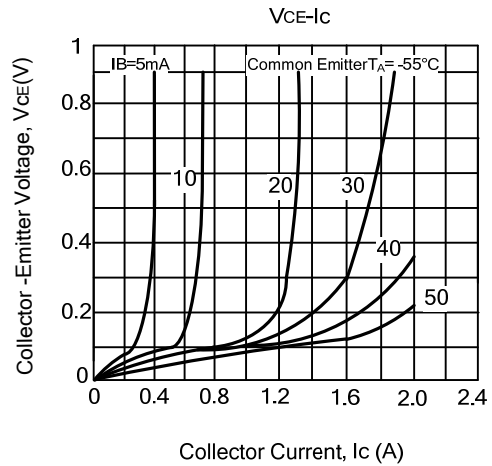
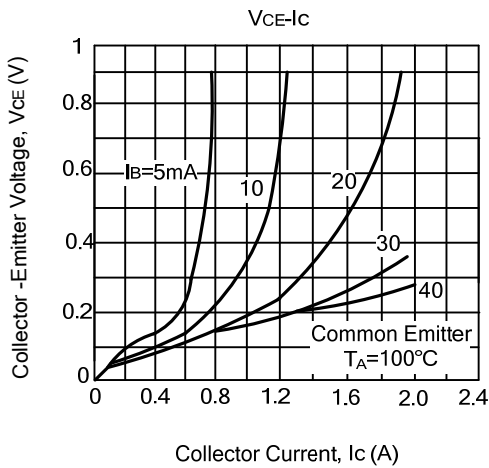
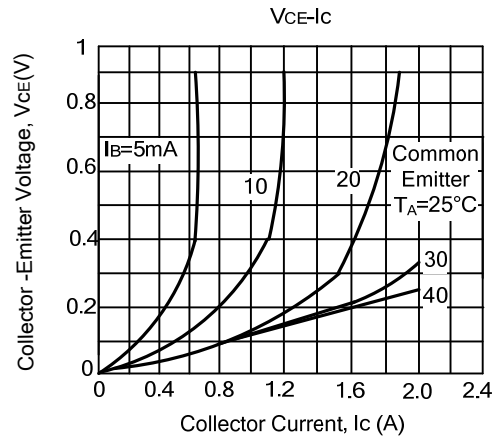
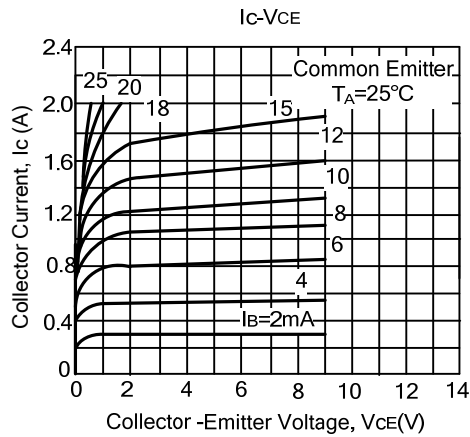
■ ELECTRICAL CHARACTERISTICS (T<sub>A</sub>= 25°C, unless otherwise specified)

PARAMETER	SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT
Collector to Base Breakdown Voltage	BV <sub>CBO</sub>	I <sub>C</sub> = 10μA, I <sub>E</sub> = 0	50			V
Collector to Emitter Breakdown Voltage	BV <sub>CEO</sub>	I <sub>C</sub> = 10mA, I <sub>B</sub> = 0	50			V
Emitter to Base Breakdown Voltage	BV <sub>EBO</sub>	I <sub>E</sub> = 10μA, I <sub>C</sub> = 0	5			V
Collector Cut-off Current	I <sub>CBO</sub>	V <sub>CB</sub> =50V, I <sub>E</sub> = 0			1.0	μA
Emitter Cut-off Current	I <sub>EBO</sub>	V <sub>EB</sub> = 5V, I <sub>C</sub> =0			1.0	μA
DC Current Gain	h <sub>FE1</sub>	V <sub>CE</sub> =2V, I <sub>C</sub> =0.5A	70		240	
	h <sub>FE2</sub>	V <sub>CE</sub> =2V, I <sub>C</sub> =1.5A	40			
Collector-Emitter Saturation Voltage	V <sub>CE(SAT)</sub>	I <sub>C</sub> =1A, I <sub>B</sub> =0.05A			0.5	V
Base- Emitter Saturation Voltage	V <sub>BE(SAT)</sub>	I <sub>C</sub> =1A, I <sub>B</sub> =0.05A			1.2	V
Transition Frequency	f <sub>T</sub>	V <sub>CE</sub> =2V, I <sub>C</sub> =0.5A		100		MHZ
Collector Output Capacitance	C <sub>OB</sub>	V <sub>CB</sub> = 10V, I <sub>E</sub> = 0, f=1MHZ		30		pF
Switching Time(Turn-on Time)	t <sub>ON</sub>	 <p>I<sub>B1</sub> = -I<sub>B2</sub> = 0.05A DUTY CYCLE ≤ 1%</p>		0.1		μS

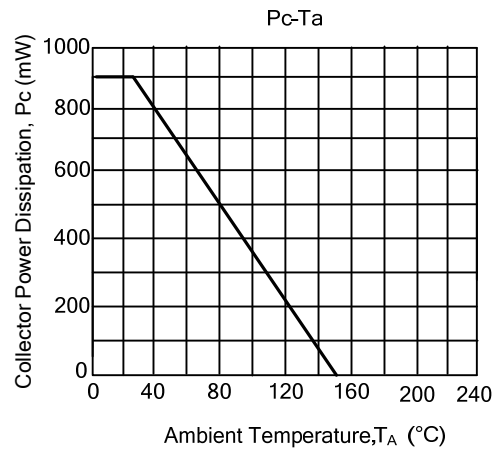
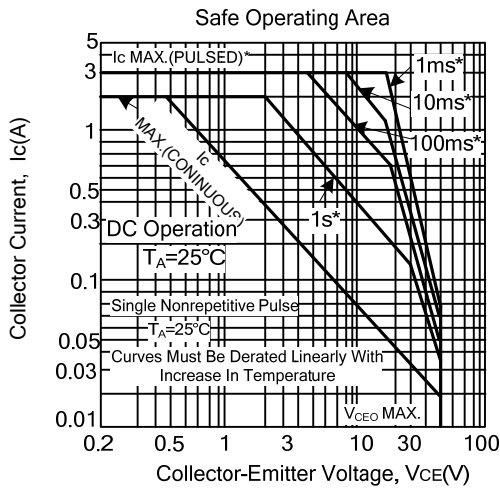
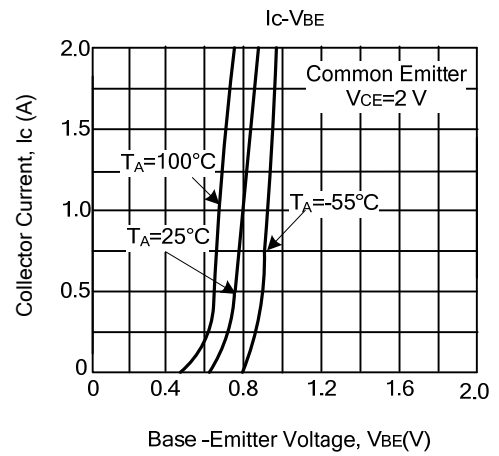
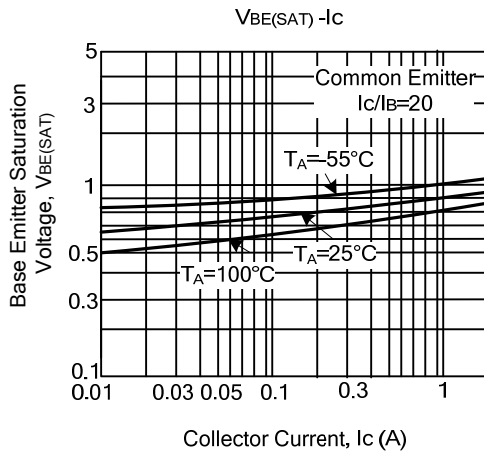
■ CLASSIFICATION OF  $h_{FE1}$

RANK	O	Y
RANGE	70-140	120-240

## TYPICAL CHARACTERISTICS



■ TYPICAL CHARACTERISTICS (Cont.)



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