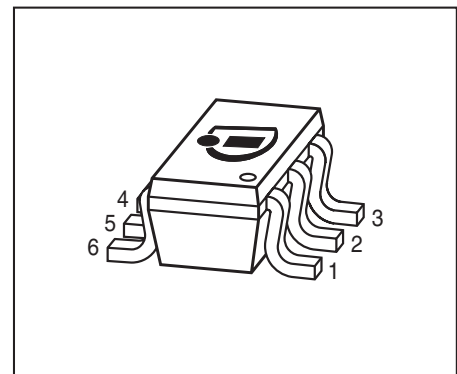
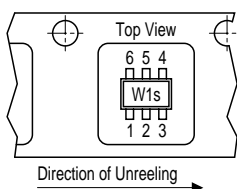


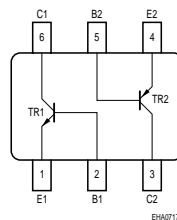
NPN / PNP Silicon AF Transistor Array

- High breakdown voltage
- Low collector-emitter saturation voltage
- Two (galvanic) internal isolated NPN/PNP Transistor in one package
- Pb-free (RoHS compliant) package
- Qualified according AEC Q101


Tape loading orientation


Marking on SC74 package (for example W1s) corresponds to pin 1 of device

Position in tape: pin 1 opposite of feed hole side



SC74_Tape

| Type | Marking | Pin Configuration | | | | | | Package |
|------------|---------|-------------------|-----|-----|-----|-----|-----|---------|
| | | 1=E | 2=B | 3=C | 4=E | 5=B | 6=C | |
| SMBTA06UPN | s2P | 1=E | 2=B | 3=C | 4=E | 5=B | 6=C | SC74 |

Maximum Ratings

| Parameter | Symbol | Value | Unit |
|---|-----------|-------------|------|
| Collector-emitter voltage | V_{CEO} | 80 | V |
| Collector-base voltage | V_{CBO} | 80 | |
| Emitter-base voltage | V_{EBO} | 4 | |
| Collector current | I_C | 500 | mA |
| Peak collector current, $t_p \leq 10$ ms | I_{CM} | 1 | A |
| Base current | I_B | 100 | mA |
| Peak base current | I_{BM} | 200 | |
| Total power dissipation- $T_S \leq 115$ °C | P_{tot} | 330 | mW |
| Junction temperature | T_j | 150 | °C |
| Storage temperature | T_{stg} | -65 ... 150 | |

Thermal Resistance

| Parameter | Symbol | Value | Unit |
|--|------------|------------|------|
| Junction - soldering point ¹⁾ | R_{thJS} | ≤ 105 | K/W |

Electrical Characteristics at $T_A = 25^\circ\text{C}$, unless otherwise specified

| Parameter | Symbol | Values | | | Unit |
|-----------|--------|--------|------|------|------|
| | | min. | typ. | max. | |

DC Characteristics

| | | | | | |
|--|---------------|------------|--------|-----------|---------------|
| Collector-emitter breakdown voltage $I_C = 1 \text{ mA}, I_B = 0$ | $V_{(BR)CEO}$ | 80 | - | - | V |
| Collector-base breakdown voltage $I_C = 100 \mu\text{A}, I_E = 0$ | $V_{(BR)CBO}$ | 80 | - | - | |
| Emitter-base breakdown voltage $I_E = 10 \mu\text{A}, I_C = 0$ | $V_{(BR)EBO}$ | 4 | - | - | |
| Collector-base cutoff current $V_{CB} = 80 \text{ V}, I_E = 0$ $V_{CB} = 80 \text{ V}, I_E = 0, T_A = 150^\circ\text{C}$ | I_{CBO} | - | - | 0.1 20 | μA |
| Collector-emitter cutoff current $V_{CE} = 60 \text{ V}, I_B = 0$ | I_{CEO} | - | - | 100 | nA |
| DC current gain ²⁾ $I_C = 10 \text{ mA}, V_{CE} = 1 \text{ V}$ $I_C = 100 \text{ mA}, V_{CE} = 1 \text{ V}$ | h_{FE} | 100 100 | - - | - - | - |
| Collector-emitter saturation voltage ²⁾ $I_C = 100 \text{ mA}, I_B = 10 \text{ mA}$ | V_{CEsat} | - | - | 0.25 | V |
| Base-emitter voltage ²⁾ $I_C = 100 \text{ mA}, V_{CE} = 1 \text{ V}$ | $V_{BE(ON)}$ | - | - | 1.2 | |

AC Characteristics

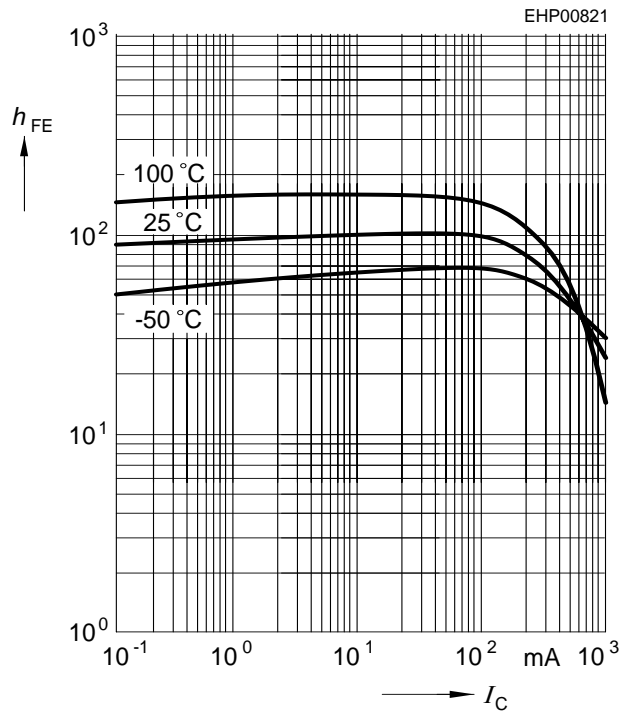
| | | | | | |
|---|----------|---|-----|---|-----|
| Transition frequency $I_C = 20 \text{ mA}, V_{CE} = 5 \text{ V}, f = 20 \text{ MHz}$ | f_T | - | 100 | - | MHz |
| Collector-base capacitance $V_{CB} = 10 \text{ V}, f = 1 \text{ MHz}$ | C_{cb} | - | 7 | - | pF |

¹⁾For calculation of R_{thJA} please refer to Application Note AN077 (Thermal Resistance Calculation)

²⁾Pulse test: $t < 300\mu\text{s}; D < 2\%$

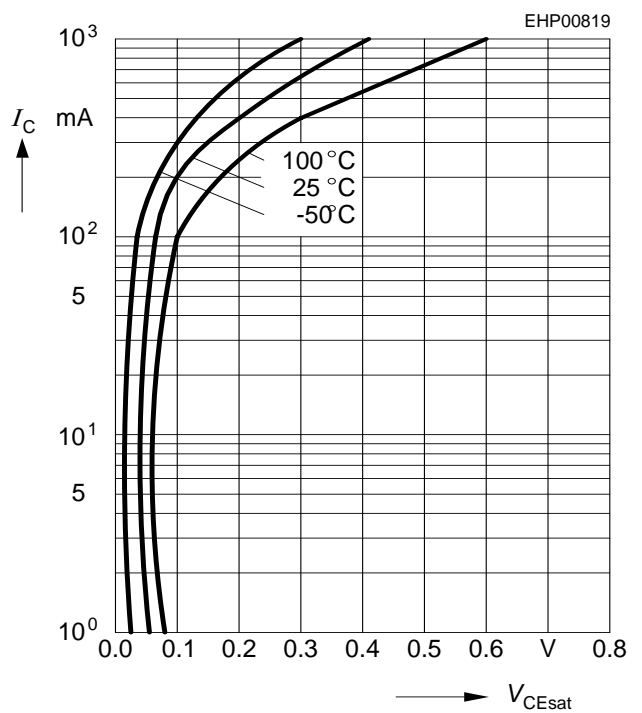
DC current gain $h_{FE} = f(I_C)$

$V_{CE} = 1\text{ V}$



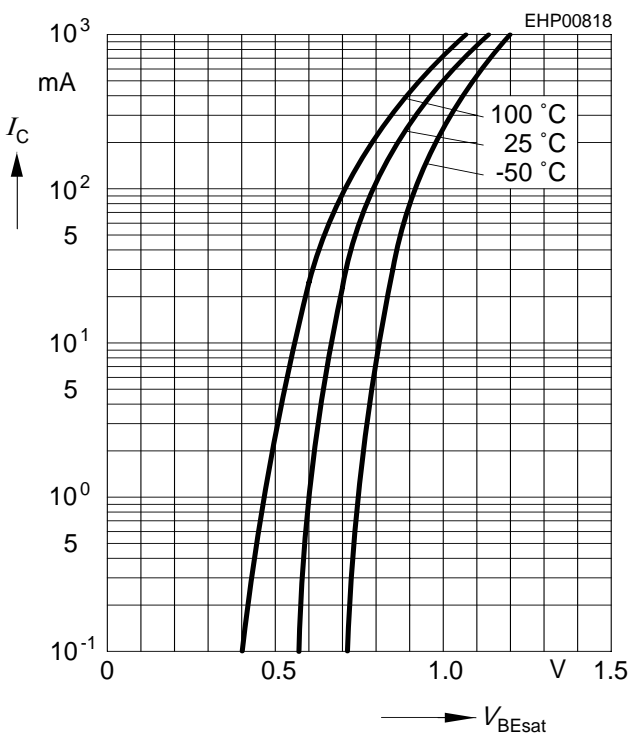
Collector-emitter saturation voltage

$I_C = f(V_{CEsat}), h_{FE} = 10$



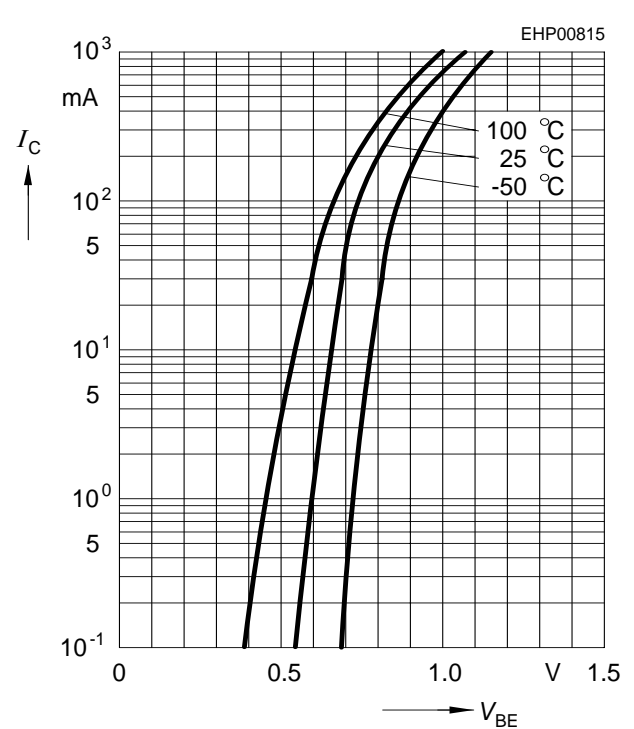
Base-emitter saturation voltage

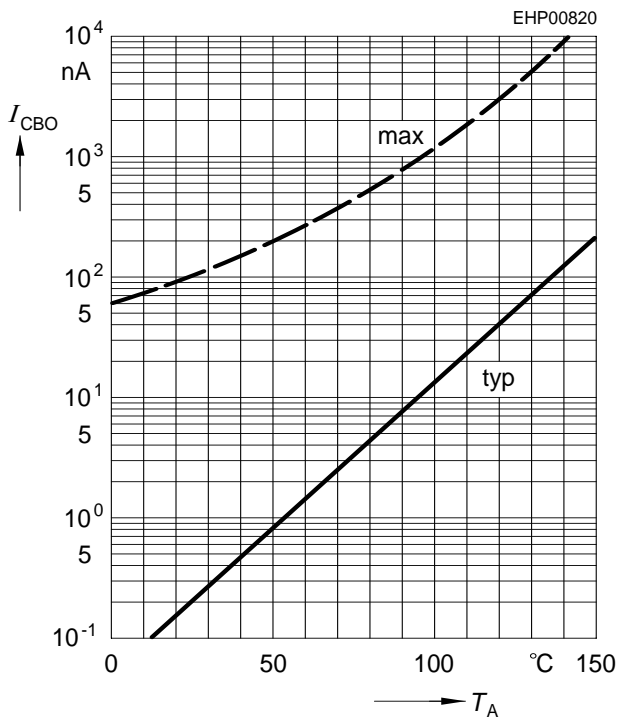
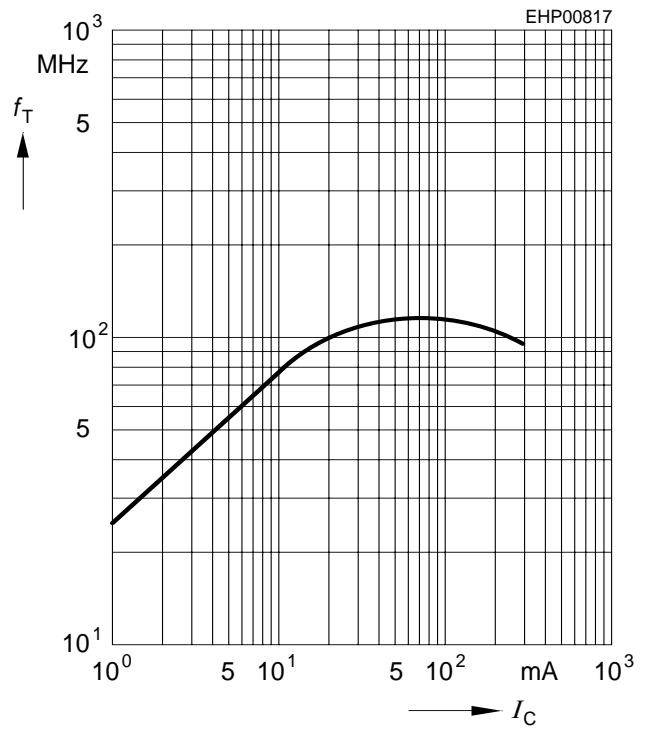
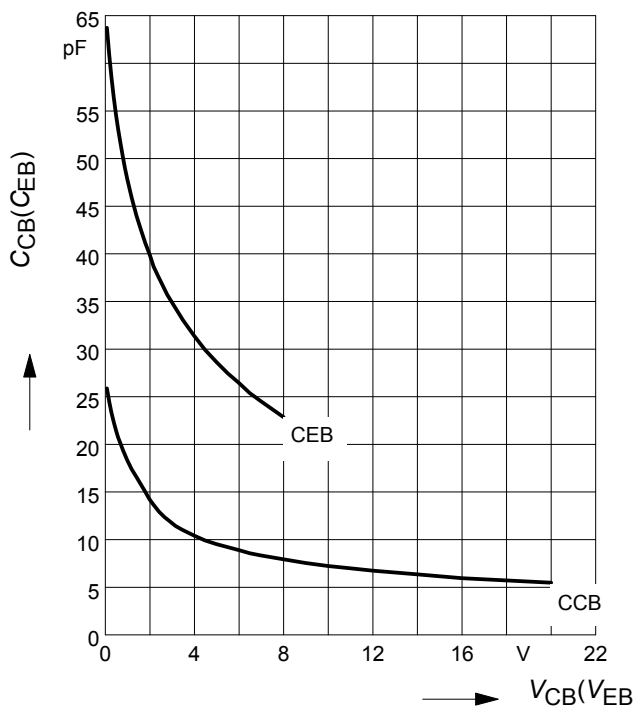
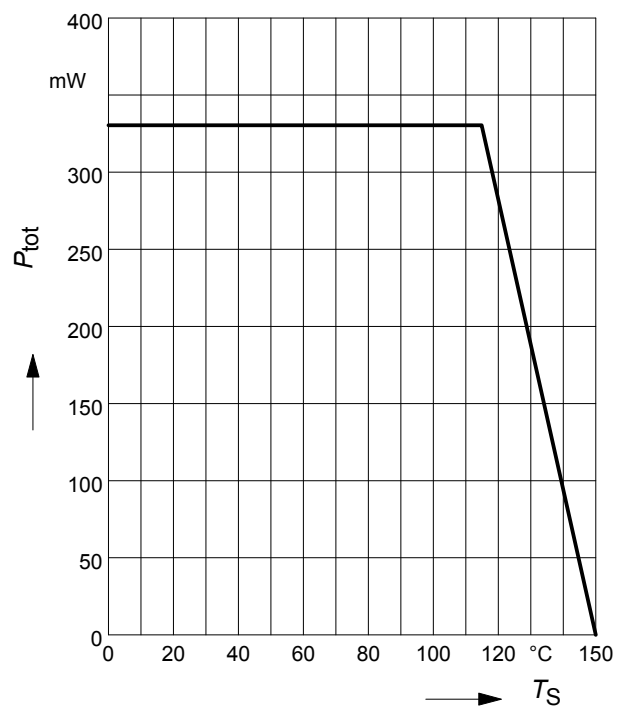
$I_C = f(V_{BEsat}), h_{FE} = 10$



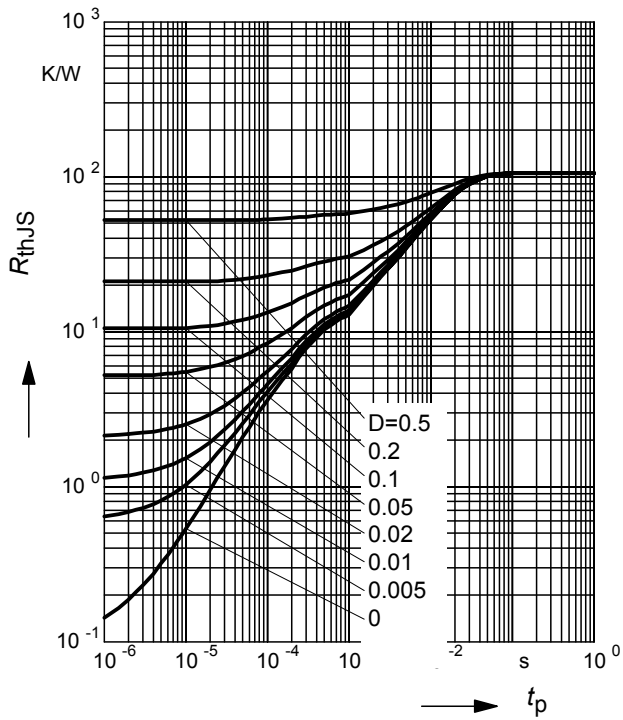
Collector current $I_C = f(V_{BE})$

$V_{CE} = 1\text{ V}$



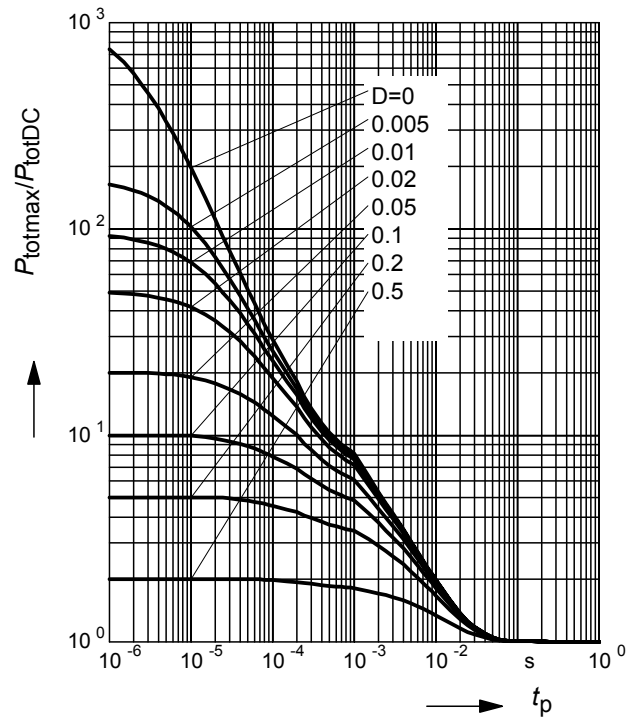
Collector cutoff current $I_{CBO} = f(T_A)$
 $V_{CBO} = 80 \text{ V}$

Transition frequency $f_T = f(I_C)$
 $V_{CE} = \text{parameter in V, } f = 2 \text{ GHz}$

Collector-base capacitance $C_{cb} = f(V_{CB})$
Emitter-base capacitance $C_{eb} = f(V_{EB})$

Total power dissipation $P_{tot} = f(T_S)$


Permissible Pulse Load $R_{thJS} = f(t_p)$

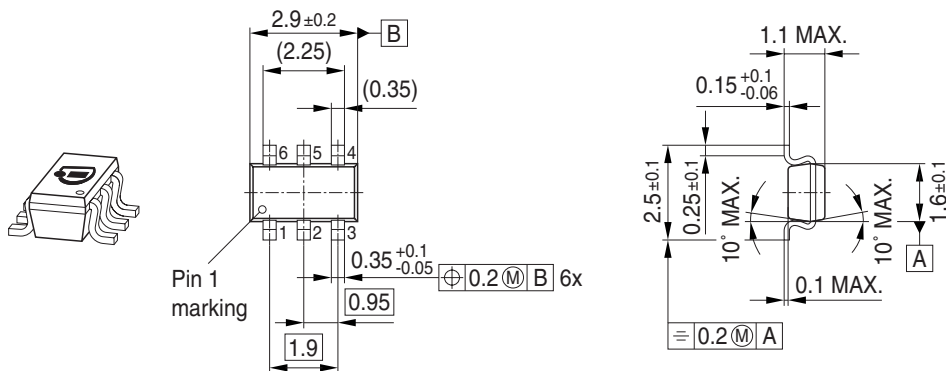


Permissible Pulse Load

$P_{totmax}/P_{totDC} = f(t_p)$



Package Outline

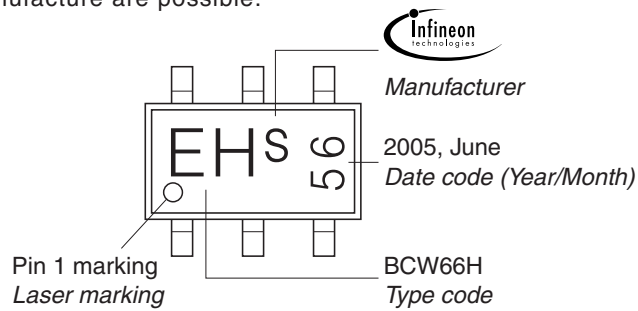


Foot Print



Marking Layout (Example)

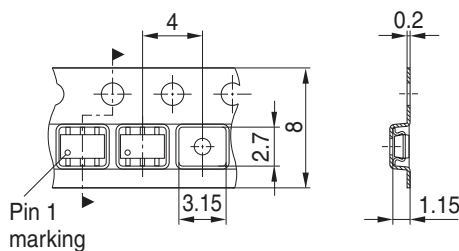
Small variations in positioning of Date code, Type code and Manufacture are possible.



Standard Packing

Reel \varnothing 180 mm = 3.000 Pieces/Reel
 Reel \varnothing 330 mm = 10.000 Pieces/Reel

For symmetric types no defined Pin 1 orientation in reel.



Edition 2009-11-16

**Published by
Infineon Technologies AG
81726 Munich, Germany**

**© 2009 Infineon Technologies AG
All Rights Reserved.**

Legal Disclaimer

The information given in this document shall in no event be regarded as a guarantee of conditions or characteristics. With respect to any examples or hints given herein, any typical values stated herein and/or any information regarding the application of the device, Infineon Technologies hereby disclaims any and all warranties and liabilities of any kind, including without limitation, warranties of non-infringement of intellectual property rights of any third party.

Information

For further information on technology, delivery terms and conditions and prices, please contact the nearest Infineon Technologies Office (www.infineon.com).

Warnings

Due to technical requirements, components may contain dangerous substances. For information on the types in question, please contact the nearest Infineon Technologies Office.

Infineon Technologies components may be used in life-support devices or systems only with the express written approval of Infineon Technologies, if a failure of such components can reasonably be expected to cause the failure of that life-support device or system or to affect the safety or effectiveness of that device or system. Life support devices or systems are intended to be implanted in the human body or to support and/or maintain and sustain and/or protect human life. If they fail, it is reasonable to assume that the health of the user or other persons may be endangered.

X-ON Electronics

Largest Supplier of Electrical and Electronic Components

Click to view similar products for [Bipolar Transistors - BJT category](#):

Click to view products by [Infineon manufacturer](#):

Other Similar products are found below :

[619691C](#) [MCH4017-TL-H](#) [BC546/116](#) [BC557/116](#) [BSW67A](#) [NTE158](#) [NTE187A](#) [NTE195A](#) [NTE2302](#) [NTE2330](#) [NTE63](#) [C4460](#)
[2SA1419T-TD-H](#) [2SA1721-O\(TE85L,F\)](#) [2SA2126-E](#) [2SB1204S-TL-E](#) [2SC5488A-TL-H](#) [2SD2150T100R](#) [SP000011176](#) [FMMTA92QTA](#)
[2N2369ADCSM](#) [2N5769](#) [2SC2412KT146S](#) [2SC5490A-TL-H](#) [2SD1816S-TL-E](#) [2SD1816T-TL-E](#) [CMXT2207 TR](#) [CPH6501-TL-E](#)
[MCH4021-TL-E](#) [US6T6TR](#) [732314D](#) [CMXT3906 TR](#) [CPH3121-TL-E](#) [CPH6021-TL-H](#) [873787E](#) [UMX21NTR](#) [EMT2T2R](#) [MCH6102-TL-E](#)
[FP204-TL-E](#) [NJL0302DG](#) [2N3583](#) [2SA1434-TB-E](#) [2SC3143-4-TB-E](#) [2SD1621S-TD-E](#) [NTE103](#) [30A02MH-TL-E](#) [NSV40301MZ4T1G](#)
[NTE101](#) [NTE13](#) [NTE15](#)