


Features

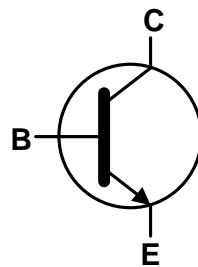
- $BV_{CEO} > 60V$
- $BV_{CEX} > 150V$
- $BV_{ECO} > 6V$
- $I_C = 3.5A$ high Continuous Collector Current
- $V_{CE(SAT)} < 65mA @ 1A$
- $R_{CE(SAT)} = 43m\Omega @ 1A$
- 1.25W Power Dissipation
- Complementary PNP Type: ZXTP25060BFH
- **Totally Lead-Free & Fully RoHS Compliant (Notes 1 & 2)**
- **Halogen and Antimony Free. "Green" Device (Note 3)**
- **Qualified to AEC-Q101 Standards for High Reliability**

Mechanical Data

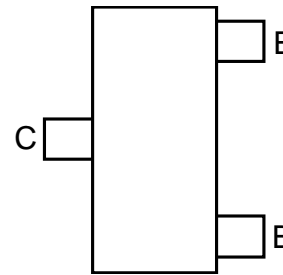
- Case: SOT23
- UL Flammability Rating 94V-0
- Case Material: Molded Plastic. "Green" Molding Compound.
- Moisture Sensitivity: Level 1 per J-STD-020
- Terminals: Finish - Matte Tin Plated Leads, Solderable per MIL-STD-202, Method 208 
- Weight: 0.008 grams (Approximate)



Top View



Device Symbol



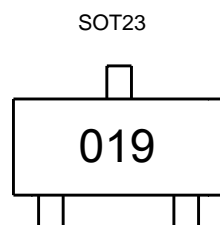
Top View
Pin-Out

Ordering Information (Note 4)

Part Number	Compliance	Marking	Reel Size (inches)	Tape Width (mm)	Quantity per Reel
ZXTN25060BFHTA	AEC-Q101	019	7	8	3,000

- Notes:
1. No purposely added lead. Fully EU Directive 2002/95/EC (RoHS), 2011/65/EU (RoHS 2) & 2015/863/EU (RoHS 3) compliant.
 2. See http://www.diodes.com/quality/lead_free/ for more information about Diodes Incorporated's definitions of Halogen- and Antimony-free, "Green" and Lead-free.
 3. Halogen- and Antimony-free "Green" products are defined as those which contain <900ppm bromine, <900ppm chlorine (<1500ppm total Br + Cl) and <1000ppm antimony compounds.
 4. For packaging details, go to our website at <https://www.diodes.com/design/support/packaging/diodes-packaging/>.

Marking Information



019 = Product Type Marking Code

Absolute Maximum Ratings (@T_A = +25°C, unless otherwise specified.)

Characteristic	Symbol	Value	Unit
Collector-Base Voltage	V _{CBO}	150	V
Collector-Emitter Voltage (Forward Blocking)	V _{CEX}	150	V
Collector-Emitter Voltage	V _{CEO}	60	V
Emitter-Collector Voltage (Reverse Blocking)	V _{ECO}	6	V
Emitter-Base Voltage	V _{EBO}	7	V
Continuous Collector Current	I _C	3.5	A
Peak Pulse Current	I _{CM}	10	A
Base Current	I _B	200	mA

Thermal Characteristics (@T_A = +25°C, unless otherwise specified.)

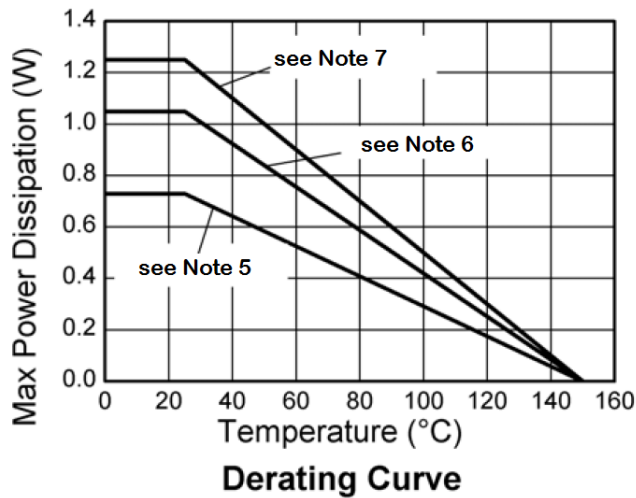
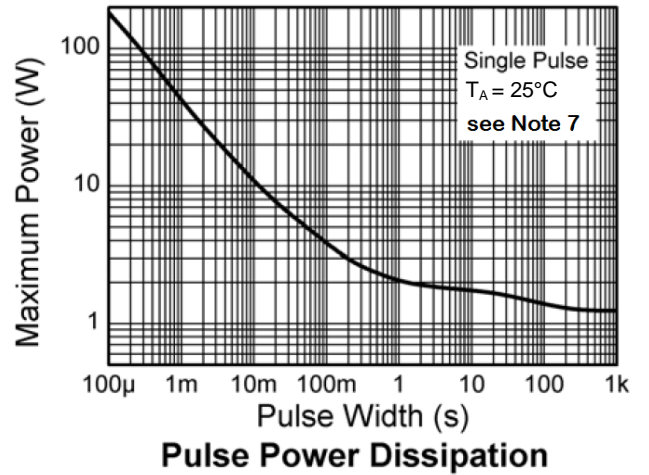
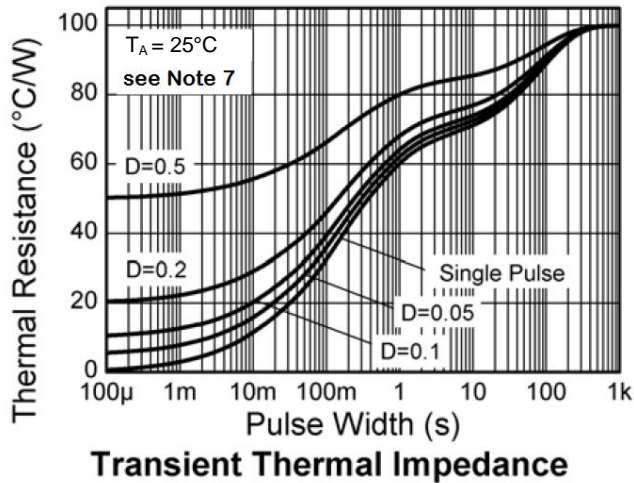
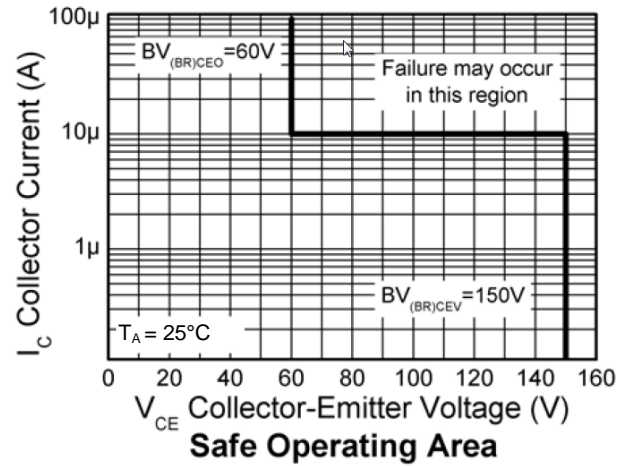
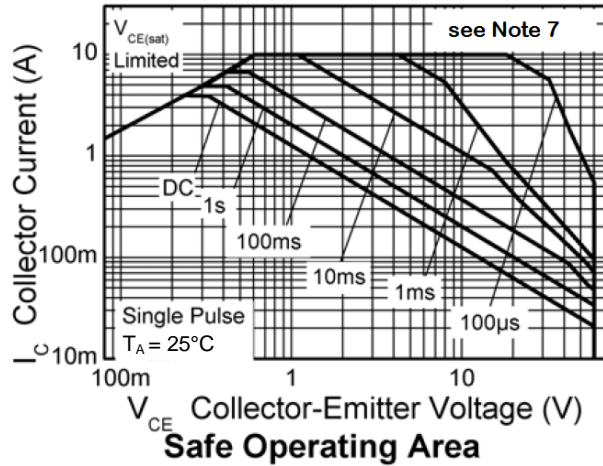
Characteristic	Symbol	Value	Unit
Power Dissipation (Note 5)	P _D	0.73	W
Linear Derating Factor		5.84	mW/°C
Power Dissipation (Note 6)	P _D	1.05	W
Linear Derating Factor		8.4	mW/°C
Power Dissipation (Note 7)	P _D	1.25	W
Linear Derating Factor		9.6	mW/°C
Power Dissipation (Note 8)	P _D	1.81	W
Linear Derating Factor		14.5	mW/°C
Thermal Resistance, Junction to Ambient (Note 5)	R _{θJA}	171	°C/W
Thermal Resistance, Junction to Ambient (Note 6)	R _{θJA}	119	°C/W
Thermal Resistance, Junction to Ambient (Note 7)	R _{θJA}	100	°C/W
Thermal Resistance, Junction to Ambient (Note 8)	R _{θJA}	69	°C/W
Operating and Storage Temperature Range	T _J , T _{STG}	-55 to +150	°C

ESD Ratings (Note 9)

Characteristic	Symbol	Value	Unit	JEDEC Class
Electrostatic Discharge - Human Body Model	ESD HBM	4,000	V	3A
Electrostatic Discharge - Machine Model	ESD MM	400	V	C

- Notes:
5. For a device surface mounted on 15mm X 15mm X 1.6mm FR-4 PCB with high coverage of single sided 1 oz copper, in still air conditions.
 6. Mounted on 25mm X 25mm X 1.6mm FR-4 PCB with high coverage of single sided 2 oz copper, in still air conditions.
 7. Mounted on 50mm X 50mm X 1.6mm FR-4 PCB with high coverage of single sided 2 oz copper, in still air conditions.
 8. As (7) above measured at t<5s.
 9. Refer to JEDEC specification JESD22-A114 and JESD22-A115.

Thermal Characteristics and Derating Information

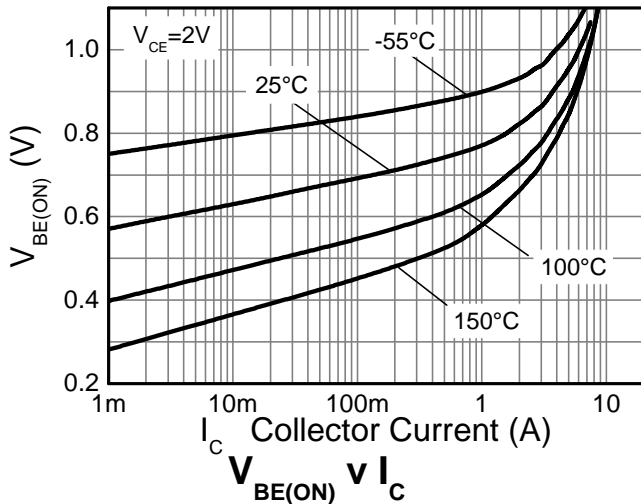
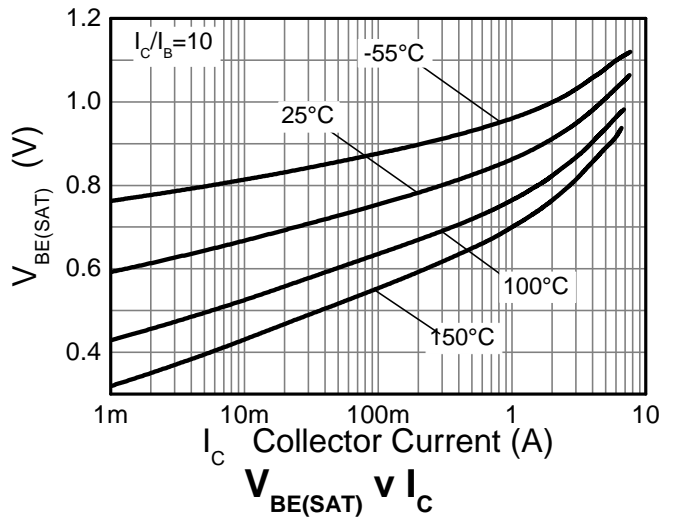
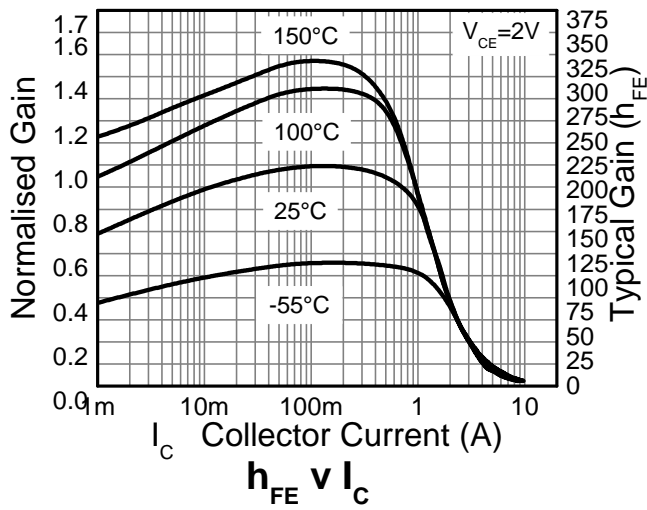
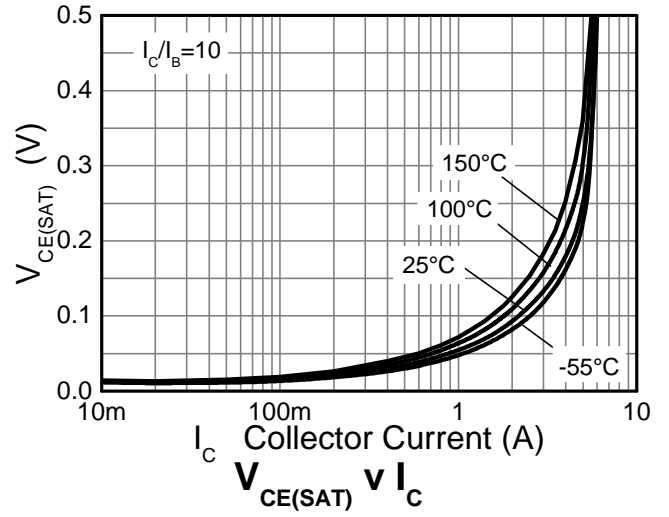
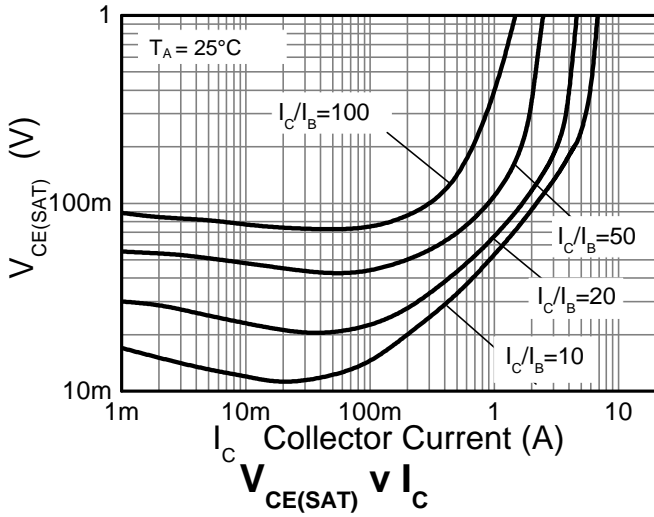


Electrical Characteristics (@ $T_A = +25^\circ\text{C}$, unless otherwise specified.)

Characteristic	Symbol	Min	Typ	Max	Unit	Test Condition
Collector-Base Breakdown Voltage	BV_{CBO}	150	190	—	V	$I_C = 100\mu\text{A}$
Collector Emitter Breakdown Voltage (Forward Blocking)	BV_{CEX}	150	190	—	V	$I_C = 100\mu\text{A}$, $R_{BE} \leq 1\text{k}\Omega$ or $-1\text{V} < V_{BE} < 0.25\text{V}$
Collector-Emitter Breakdown Voltage (Note 10)	BV_{CEO}	60	80	—	V	$I_C = 10\text{mA}$
Emitter-Collector Breakdown Voltage (Reverse Blocking)	BV_{ECX}	6	8	—	V	$I_E = 100\mu\text{A}$, $R_{BE} \leq 1\text{k}\Omega$ or $-1\text{V} < V_{BC} < 0.25\text{V}$
Emitter-Collector Breakdown Voltage (Base Open)	BV_{ECO}	6	7	—	V	$I_E = 100\mu\text{A}$
Emitter-Base Breakdown Voltage	BV_{EBO}	7	8	—	V	$I_E = 100\mu\text{A}$
Collector Cutoff Current	I_{CBO}	—	<1	50 20	nA μA	$V_{CB} = 120\text{V}$ $V_{CB} = 120\text{V}$, $T_A = +100^\circ\text{C}$
Collector Emitter Cutoff Current	I_{CEX}	—	—	100	nA	$V_{CE} = 120\text{V}$, $R_{BE} \leq 1\text{k}\Omega$ or $-1\text{V} < V_{BE} < 0.25\text{V}$
Emitter Cutoff Current	I_{EBO}	—	<1	50	nA	$V_{EB} = 5.6\text{V}$
Static Forward Current Transfer Ratio (Note 10)	h_{FE}	100 90 25	200 180 40	300 — —	—	$I_C = 10\text{mA}$, $V_{CE} = 2\text{V}$ $I_C = 1\text{A}$, $V_{CE} = 2\text{V}$ $I_C = 3.5\text{A}$, $V_{CE} = 2\text{V}$
Collector-Emitter Saturation Voltage (Note 10)	$V_{CE(SAT)}$	—	33 73 50 150	40 95 65 175	mV mV mV mV	$I_C = 0.5\text{A}$, $I_B = 50\text{mA}$ $I_C = 0.5\text{A}$, $I_B = 10\text{mA}$ $I_C = 1\text{A}$, $I_B = 100\text{mA}$ $I_C = 3.5\text{A}$, $I_B = 350\text{mA}$
Base-Emitter Turn-On Voltage (Note 10)	$V_{BE(ON)}$	—	865	950	mV	$I_C = 3.5\text{mA}$, $V_{CE} = 2\text{V}$
Base-Emitter Saturation Voltage (Note 10)	$V_{BE(SAT)}$	—	960	1050	mV	$I_C = 3.5\text{mA}$, $I_B = 350\text{mA}$
Output Capacitance (Note 10)	C_{obo}	—	11.5	20	pF	$V_{CB} = 10\text{V}$, $f = 1\text{MHz}$
Transition Frequency	f_T	—	185	—	MHz	$V_{CE} = 5\text{V}$, $I_C = 100\text{mA}$, $f = 100\text{MHz}$
Turn-On Time	t_{ON}	—	34	—	ns	$V_{CC} = 10\text{V}$, $I_C = 500\text{mA}$
Turn-Off Time	t_{OFF}	—	566	—	ns	$I_{B1} = -I_{B2} = 50\text{mA}$

Note: 10. Measured under pulsed conditions. Pulse width $\leq 300\mu\text{s}$. Duty cycle $\leq 2\%$.

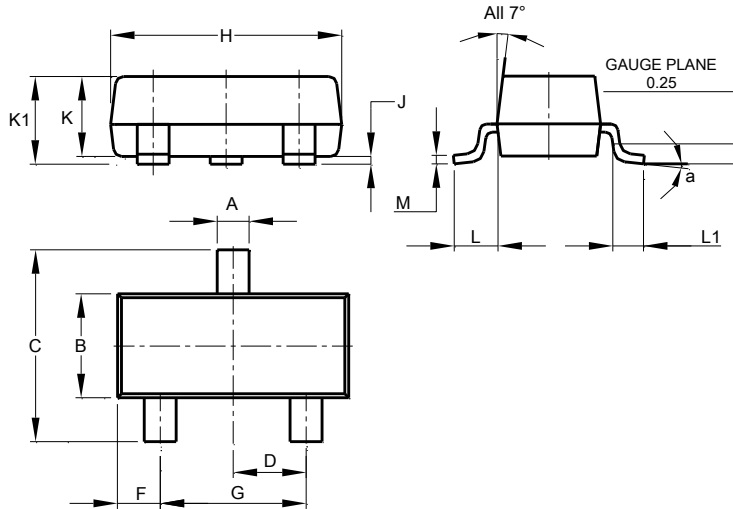
Typical Electrical Characteristics (@ $T_A = +25^\circ\text{C}$, unless otherwise specified.)



Package Outline Dimensions

Please see <http://www.diodes.com/package-outlines.html> for the latest version.

SOT23

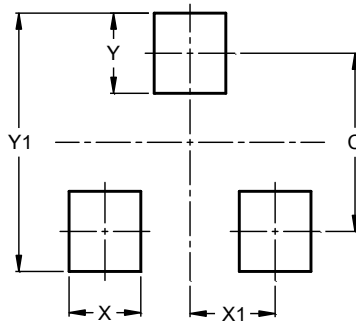


SOT23			
Dim	Min	Max	Typ
A	0.37	0.51	0.40
B	1.20	1.40	1.30
C	2.30	2.50	2.40
D	0.89	1.03	0.915
F	0.45	0.60	0.535
G	1.78	2.05	1.83
H	2.80	3.00	2.90
J	0.013	0.10	0.05
K	0.890	1.00	0.975
K1	0.903	1.10	1.025
L	0.45	0.61	0.55
L1	0.25	0.55	0.40
M	0.085	0.150	0.110
a	0°	8°	-
All Dimensions in mm			

Suggested Pad Layout

Please see <http://www.diodes.com/package-outlines.html> for the latest version.

SOT23



Dimensions	Value (in mm)
C	2.0
X	0.8
X1	1.35
Y	0.9
Y1	2.9

IMPORTANT NOTICE

DIODES INCORPORATED MAKES NO WARRANTY OF ANY KIND, EXPRESS OR IMPLIED, WITH REGARDS TO THIS DOCUMENT, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE (AND THEIR EQUIVALENTS UNDER THE LAWS OF ANY JURISDICTION).

Diodes Incorporated and its subsidiaries reserve the right to make modifications, enhancements, improvements, corrections or other changes without further notice to this document and any product described herein. Diodes Incorporated does not assume any liability arising out of the application or use of this document or any product described herein; neither does Diodes Incorporated convey any license under its patent or trademark rights, nor the rights of others. Any Customer or user of this document or products described herein in such applications shall assume all risks of such use and will agree to hold Diodes Incorporated and all the companies whose products are represented on Diodes Incorporated website, harmless against all damages.

Diodes Incorporated does not warrant or accept any liability whatsoever in respect of any products purchased through unauthorized sales channel. Should Customers purchase or use Diodes Incorporated products for any unintended or unauthorized application, Customers shall indemnify and hold Diodes Incorporated and its representatives harmless against all claims, damages, expenses, and attorney fees arising out of, directly or indirectly, any claim of personal injury or death associated with such unintended or unauthorized application.

Products described herein may be covered by one or more United States, international or foreign patents pending. Product names and markings noted herein may also be covered by one or more United States, international or foreign trademarks.

This document is written in English but may be translated into multiple languages for reference. Only the English version of this document is the final and determinative format released by Diodes Incorporated.

LIFE SUPPORT

Diodes Incorporated products are specifically not authorized for use as critical components in life support devices or systems without the express written approval of the Chief Executive Officer of Diodes Incorporated. As used herein:

A. Life support devices or systems are devices or systems which:

1. are intended to implant into the body, or
2. support or sustain life and whose failure to perform when properly used in accordance with instructions for use provided in the labeling can be reasonably expected to result in significant injury to the user.

B. A critical component is any component in a life support device or system whose failure to perform can be reasonably expected to cause the failure of the life support device or to affect its safety or effectiveness.

Customers represent that they have all necessary expertise in the safety and regulatory ramifications of their life support devices or systems, and acknowledge and agree that they are solely responsible for all legal, regulatory and safety-related requirements concerning their products and any use of Diodes Incorporated products in such safety-critical, life support devices or systems, notwithstanding any devices- or systems-related information or support that may be provided by Diodes Incorporated. Further, Customers must fully indemnify Diodes Incorporated and its representatives against any damages arising out of the use of Diodes Incorporated products in such safety-critical, life support devices or systems.

Copyright © 2018, Diodes Incorporated

www.diodes.com

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 [Diodes Incorporated manufacturer](#):

Other Similar products are found below :

[619691C](#) [MCH4017-TL-H](#) [MJ15024/WS](#) [MJ15025/WS](#) [BC546/116](#) [BC556/FSC](#) [BC557/116](#) [BSW67A](#) [HN7G01FU-A\(T5L,F,T](#)
[NJVMJD148T4G](#) [NSVMMBT6520LT1G](#) [NTE187A](#) [NTE195A](#) [NTE2302](#) [NTE2330](#) [NTE2353](#) [NTE316](#) [IMX9T110](#) [NTE63](#) [NTE65](#)
[C4460](#) [SBC846BLT3G](#) [2SA1419T-TD-H](#) [2SA1721-O\(TE85L,F\)](#) [2SA1727TLP](#) [2SA2126-E](#) [2SB1202T-TL-E](#) [2SB1204S-TL-E](#) [2SC5488A-](#)
[TL-H](#) [2SD2150T100R](#) [SP000011176](#) [FMC5AT148](#) [2N2369ADCSM](#) [2SB1202S-TL-E](#) [2SC2412KT146S](#) [2SC4618TLN](#) [2SC5490A-TL-H](#)
[2SD1816S-TL-E](#) [2SD1816T-TL-E](#) [CMXT2207 TR](#) [CPH6501-TL-E](#) [MCH4021-TL-E](#) [BC557B](#) [TTC012\(Q\)](#) [BULD128DT4](#) [JANTX2N3810](#)
[Jantx2N5416](#) [US6T6TR](#) [KSF350](#) [068071B](#)