

阅读申明

- 1.本站收集的数据手册和产品资料都来自互联网，版权归原作者所有。如读者和版权方有任何异议请及时告之，我们将妥善解决。
- 2.本站提供的中文数据手册是英文数据手册的中文翻译，其目的是协助用户阅读，该译文无法自动跟随原稿更新，同时也可能存在翻译上的不当。建议读者以英文原稿为参考以便获得更精准的信息。
- 3.本站提供的产品资料，来自厂商的技术支持或者使用者的心得体会等，其内容可能存在描述上的差异，建议读者做出适当判断。
- 4.如需与我们联系，请发邮件到marketing@iczoom.com，主题请标有“数据手册”字样。

Read Statement

1. The datasheets and other product information on the site are all from network reference or other public materials, and the copyright belongs to the original author and original published source. If readers and copyright owners have any objections, please contact us and we will deal with it in a timely manner.
2. The Chinese datasheets provided on the website is a Chinese translation of the English datasheets. Its purpose is for reader's learning exchange only and do not involve commercial purposes. The translation cannot be automatically updated with the original manuscript, and there may also be improper translations. Readers are advised to use the English manuscript as a reference for more accurate information.
3. All product information provided on the website refer to solutions from manufacturers' technical support or users the contents may have differences in description, and readers are advised to take the original article as the standard.
4. If you have any questions, please contact us at marketing@iczoom.com and mark the subject with "Datasheets" .

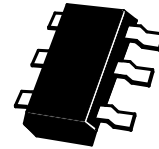
ZXTD6717E6

COMPLEMENTARY NPN/PNP LOW SATURATION DUAL TRANSISTORS

SUMMARY

NPN: $V_{CE0}=15V$; $V_{CE(sat)}=0.1V$; $I_C=1.5A$;

PNP: $V_{CE0}=-12V$; $V_{CE(sat)}=-0.175V$; $I_C=-1.25A$;



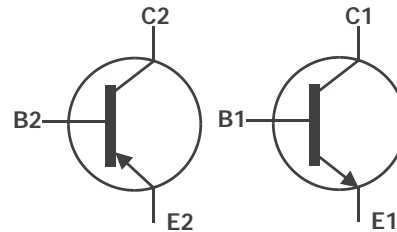
SOT23-6

DESCRIPTION

This new combination device comprises a complementary NPN and PNP low saturation transistor housed in the SOT23-6 package. Users benefit from very efficient performance combining a high current operation, exceptionally low $V_{CE(sat)}$ and high H_{FE} resulting in extremely low on state losses. This dual transistor is ideal for use in a variety of efficient driving functions including motors, lamps, relays and solenoids and will also benefit circuits requiring high output current switching.

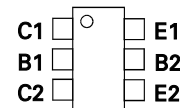
FEATURES

- Low Saturation Voltage
- $R_{CE(sat)}$ values NPN =135m Ω at 1.5A
 - PNP =150m Ω at 1.25A
- h_{FE} min 200 at 1A
- $I_C=1.5A$ Continuous (NPN), 1.25A (PNP)
- SOT23-6 package with $P_D = 1.1W$



APPLICATIONS

- Various driving functions
 - Lamps
 - Motors
 - Relays and solenoids
- High output current switches



Top View

ORDERING INFORMATION

DEVICE	REEL SIZE (inches)	TAPE WIDTH (mm)	QUANTITY PER REEL
ZXTD6717E6TA	7	8mm embossed	3000 units
ZXTD6717E6TC	13	8mm embossed	10000 units

DEVICE MARKING

6717

ZXTD6717E6

ABSOLUTE MAXIMUM RATINGS.

PARAMETER	SYMBOL	LIMIT NPN	LIMIT PNP	UNIT
Collector-Base Voltage	V_{CBO}	15	-12	V
Collector-Emitter Voltage	V_{CEO}	15	-12	V
Emitter-Base Voltage	V_{EBO}	5	-5	V
Peak Pulse Current	I_{CM}	5	-3	A
Continuous Collector Current	I_C	1.5	-1.25	A
Base Current	I_B	200	-200	mA
Power Dissipation at $T_A=25^\circ\text{C}$ (a) Linear Derating Factor	P_D	1.1 8.8	1.1 8.8	W mW/ $^\circ\text{C}$
Power Dissipation at $T_A=25^\circ\text{C}$ (b) Linear Derating Factor	P_D	1.7 13.6	1.7 13.6	W mW/ $^\circ\text{C}$
Operating and Storage Temperature Range	$T_J; T_{stg}$	-55 to +150	-55 to +150	$^\circ\text{C}$

THERMAL RESISTANCE

PARAMETER	SYMBOL	VALUE	UNIT
Junction to Ambient (a)	$R_{\theta JA}$	125	$^\circ\text{C}/\text{W}$
Junction to Ambient (b)	$R_{\theta JA}$	45	$^\circ\text{C}/\text{W}$

NOTES

(a) For a device surface mounted on 25mm x 25mm FR4 PCB with high coverage of single sided 1oz copper, in still air conditions

(b) For a device surface mounted on FR4 PCB measured at $t \leq 5$ secs.

ZXTD6717E6

NPN TRANSISTOR

ELECTRICAL CHARACTERISTICS (at $T_{amb} = 25^{\circ}\text{C}$ unless otherwise stated).

PARAMETER	SYMBOL	MIN.	TYP.	MAX.	UNIT	CONDITIONS.
Collector-Base Breakdown Voltage	$V_{(BR)CBO}$	15			V	$I_C=100\mu\text{A}$
Collector-Emitter Breakdown Voltage	$V_{(BR)CEO}$	15			V	$I_C=10\text{mA}^*$
Emitter-Base Breakdown Voltage	$V_{(BR)EBO}$	5			V	$I_E=100\mu\text{A}$
Collector Cut-Off Current	I_{CBO}			10	nA	$V_{CB}=10\text{V}$
Emitter Cut-Off Current	I_{EBO}			10	nA	$V_{EB}=4\text{V}$
Collector Emitter Cut-Off Current	I_{CES}			10	nA	$V_{CES}=10\text{V}$
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$		16.5 40 75 150 205	20 55 100 200 245	mV mV mV mV mV	$I_C=100\text{mA}, I_B=10\text{mA}^*$ $I_C=250\text{mA}, I_B=10\text{mA}^*$ $I_C=500\text{mA}, I_B=10\text{mA}^*$ $I_C=1\text{A}, I_B=10\text{mA}^*$ $I_C=1.5\text{A}, I_B=20\text{mA}^*$
Base-Emitter Saturation Voltage	$V_{BE(sat)}$		0.93	1.1	V	$I_C=1.5\text{A}, I_B=20\text{mA}^*$
Base-Emitter Turn-On Voltage	$V_{BE(on)}$		0.865	1.1	V	$I_C=1.5\text{A}, V_{CE}=2\text{V}^*$
Static Forward Current Transfer Ratio	h_{FE}	200 300 250 200 75 30	420 450 390 300 150 75			$I_C=10\text{mA}, V_{CE}=2\text{V}^*$ $I_C=100\text{mA}, V_{CE}=2\text{V}^*$ $I_C=500\text{mA}, V_{CE}=2\text{V}^*$ $I_C=1\text{A}, V_{CE}=2\text{V}^*$ $I_C=3\text{A}, V_{CE}=2\text{V}^*$ $I_C=5\text{A}, V_{CE}=2\text{V}^*$
Transition Frequency	f_T		180		MHz	$I_C=50\text{mA}, V_{CE}=10\text{V}$ $f=100\text{MHz}$
Output Capacitance	C_{obo}		15		pF	$V_{CB}=10\text{V}, f=1\text{MHz}$
Turn-On Time	$t_{(on)}$		50		ns	$I_C=1\text{A}, V_{CC}=10\text{V}$
Turn-Off Time	$t_{(off)}$		250		ns	$I_{B1}=I_{B2}=100\text{mA}$

*Measured under pulsed conditions. Pulse width=300 μs . Duty cycle $\leq 2\%$

ZXTD6717E6

PNP TRANSISTOR

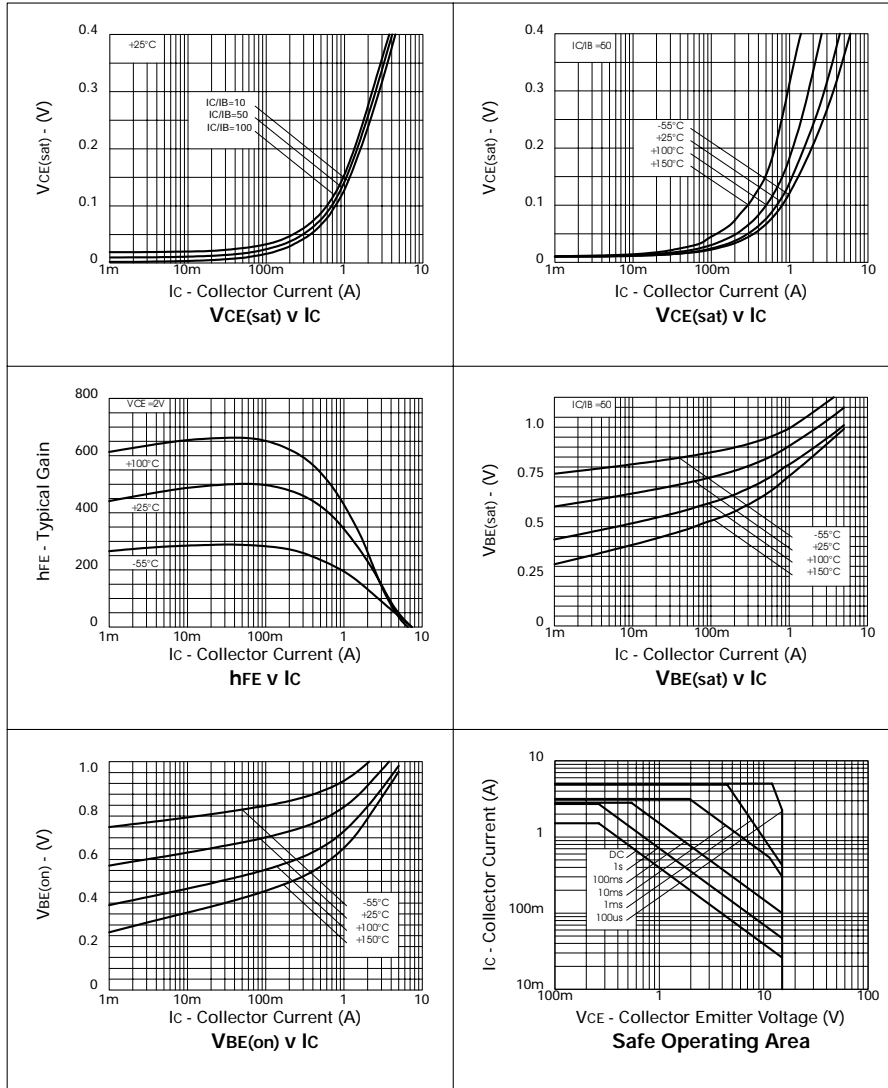
ELECTRICAL CHARACTERISTICS (at $T_{amb} = 25^{\circ}\text{C}$ unless otherwise stated).

PARAMETER	SYMBOL	MIN.	TYP.	MAX.	UNIT	CONDITIONS.
Collector-Base Breakdown Voltage	$V_{(BR)CBO}$	-12			V	$I_C = -100\mu\text{A}$
Collector-Emitter Breakdown Voltage	$V_{(BR)CEO}$	-12			V	$I_C = -10\text{mA}^*$
Emitter-Base Breakdown Voltage	$V_{(BR)EBO}$	-5			V	$I_E = -100\mu\text{A}$
Collector Cut-Off Current	I_{CBO}			-10	nA	$V_{CB} = -10\text{V}$
Emitter Cut-Off Current	I_{EBO}			-10	nA	$V_{EB} = -4\text{V}$
Collector Emitter Cut-Off Current	I_{CES}			-10	nA	$V_{CES} = -10\text{V}$
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$		-25 -55 -110 -160 -185	-40 -100 -175 -215 -240	mV mV mV mV mV	$I_C = -100\text{mA}, I_B = -10\text{mA}^*$ $I_C = -250\text{mA}, I_B = -10\text{mA}^*$ $I_C = -500\text{mA}, I_B = -10\text{mA}^*$ $I_C = -1\text{A}, I_B = -50\text{mA}^*$ $I_C = -1.25\text{A}, I_B = -100\text{mA}^*$
Base-Emitter Saturation Voltage	$V_{BE(sat)}$		-0.99	-1.10	V	$I_C = -1.25\text{A}, I_B = -100\text{mA}^*$
Base-Emitter Turn-On Voltage	$V_{BE(on)}$		-0.85	-1.0	V	$I_C = -1.25\text{A}, V_{CE} = -2\text{V}^*$
Static Forward Current Transfer Ratio	h_{FE}	300 300 200 125 75 30	490 450 340 250 140 80			$I_C = -10\text{mA}, V_{CE} = -2\text{V}^*$ $I_C = -100\text{mA}, V_{CE} = -2\text{V}^*$ $I_C = -500\text{mA}, V_{CE} = -2\text{V}^*$ $I_C = -1.25\text{A}, V_{CE} = -2\text{V}^*$ $I_C = -2\text{A}, V_{CE} = -2\text{V}^*$ $I_C = -3\text{A}, V_{CE} = -2\text{V}^*$
Transition Frequency	f_T		220		MHz	$I_C = -50\text{mA}, V_{CE} = -10\text{V}$ $f = 100\text{MHz}$
Output Capacitance	C_{obo}		15		pF	$V_{CB} = -10\text{V}, f = 1\text{MHz}$
Turn-On Time	$t_{(on)}$		50		ns	$I_C = -1\text{A}, V_{CC} = -10\text{V}$
Turn-Off Time	$t_{(off)}$		135		ns	$I_{B1} = I_{B2} = -100\text{mA}$

*Measured under pulsed conditions. Pulse width=300 μs . Duty cycle $\leq 2\%$

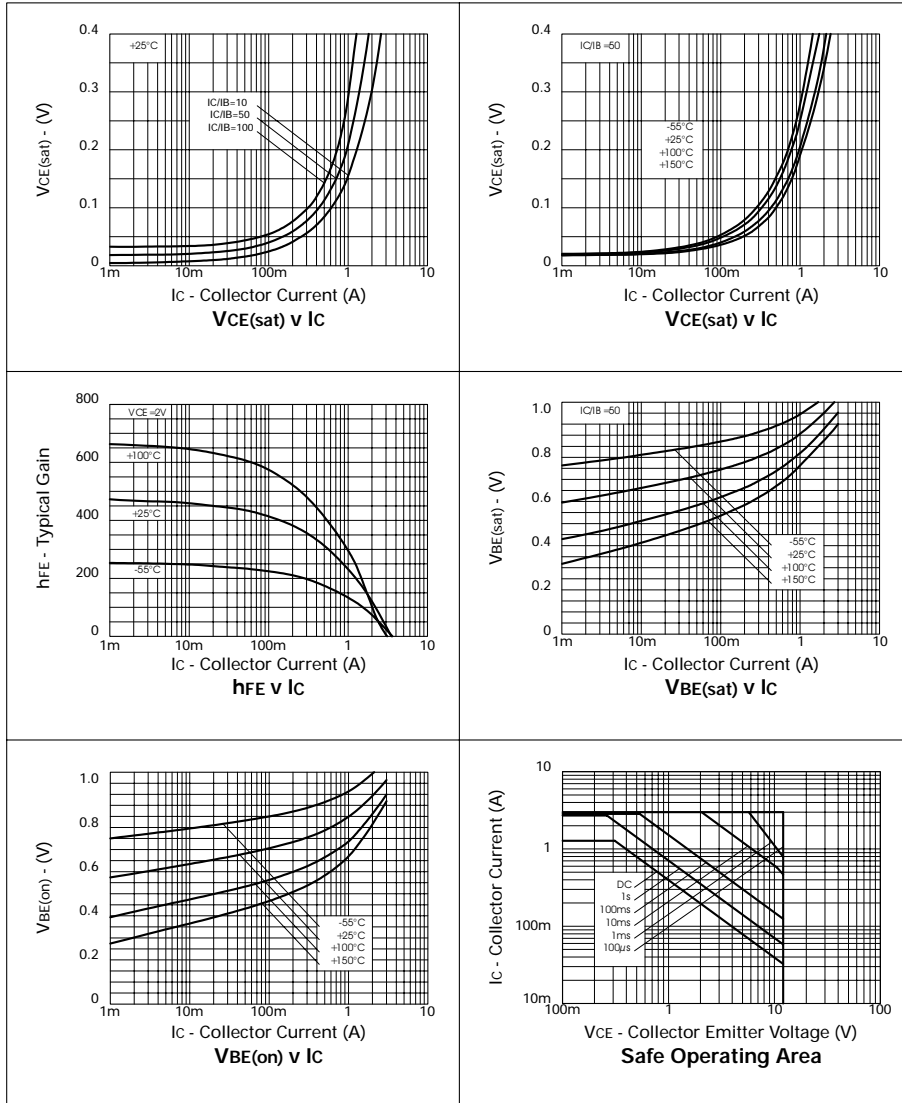
ZXTD6717E6

NPN TYPICAL CHARACTERISTICS



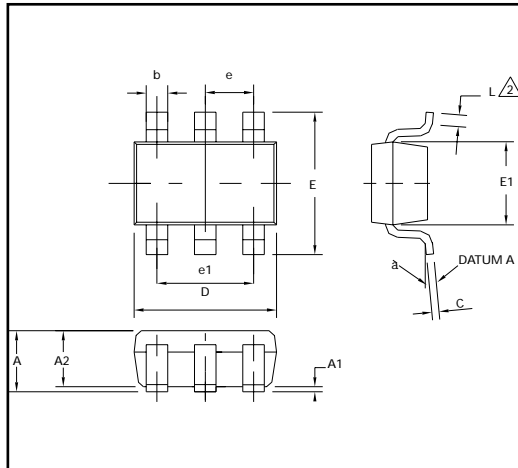
ZXTD6717E6

PNP TYPICAL CHARACTERISTICS

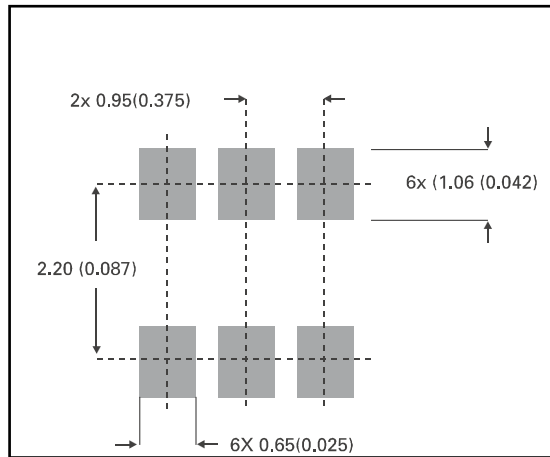


ZXTD6717E6

PACKAGE DIMENSIONS



PAD LAYOUT DETAILS



DIM	Millimetres		Inches	
	Min	Max	Min	Max
A	0.90	1.45	0.35	0.057
A1	0.00	0.15	0	0.006
A2	0.90	1.30	0.035	0.051
b	0.35	0.50	0.014	0.019
C	0.09	0.20	0.0035	0.008
D	2.80	3.00	0.110	0.118
E	2.60	3.00	0.102	0.118
E1	1.50	1.75	0.059	0.069
L	0.10	0.60	0.004	0.002
e	0.95 REF		0.037 REF	
e1	1.90 REF		0.074 REF	
L	0°	10°	0°	10°



Zetex plc.
 Fields New Road, Chadderton, Oldham, OL9-8NP, United Kingdom.
 Telephone: (44)161 622 4422 (Sales), (44)161 622 4444 (General Enquiries)
 Fax: (44)161 622 4420

Zetex GmbH
 Streitfeldstraße 19
 D-81673 München
 Germany
 Telefon: (49) 89 45 49 49 0
 Fax: (49) 89 45 49 49 49

Zetex Inc.
 47 Mall Drive, Unit 4
 Commack NY 11725
 USA
 Telephone: (631) 543-7100
 Fax: (631) 864-7630

Zetex (Asia) Ltd.
 3701-04 Metroplaza, Tower 1
 Hing Fong Road,
 Kwai Fong, Hong Kong
 Telephone: (852) 26100 611
 Fax: (852) 24250 494

These are supported by
 agents and distributors in
 major countries world-wide
 © Zetex plc 2001

www.zetex.com

This publication is issued to provide outline information only which (unless agreed by the Company in writing) may not be used, applied or reproduced for any purpose or form part of any order or contract or be regarded as a representation relating to the products or services concerned. The Company reserves the right to alter without notice the specification, design, price or conditions of supply of any product or service.

ISSUE 2 - JULY 2001