

ZXTP2012A

60V PNP LOW SATURATION MEDIUM POWER TRANSISTOR IN E-LINE

SUMMARY

$BV_{CEO} = -60V$; $R_{SAT} = 38m\Omega$; $I_C = -3.5A$

DESCRIPTION

Packaged in the E-line outline this new low saturation 60V PNP transistor offers extremely low on state losses making it ideal for use in DC-DC circuits and various driving and power management functions.

FEATURES

- 3.5 amps continuous current
- Up to 15 amps peak current
- Very low saturation voltages
- Excellent gain up to 10 amps

APPLICATIONS

- DC - DC converters
- MOSFET gate drivers
- Power switches
- Motor control

ORDERING INFORMATION

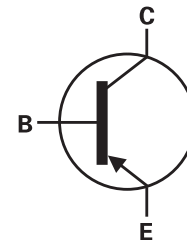
DEVICE	QUANTITY PER REEL
ZXTP2012ASTOA	2,000 units / reel
ZXTP2012ASTZ	2,000 units / carton

DEVICE MARKING

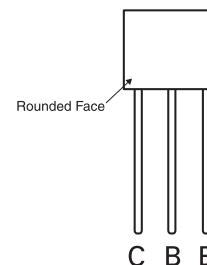
ZXT
P20
12



E-line



PINOUT



TOP VIEW

ZXTP2012A

ABSOLUTE MAXIMUM RATINGS

PARAMETER	SYMBOL	LIMIT	UNIT
Collector-base voltage	BV_{CBO}	-100	V
Collector-emitter voltage	BV_{CEO}	-60	V
Emitter-base voltage	BV_{EBO}	-7	V
Continuous collector current ^(a)	I_C	-3.5	A
Peak pulse current	I_{CM}	-15	A
Practical power dissipation at $T_A = 25^\circ\text{C}$ ^(a)	P_D	1.0	W
Linear derating factor		8	mW/°C
Power dissipation at $T_A = 25^\circ\text{C}$ ^(b)	P_D	0.71	W
Linear derating factor		5.7	mW/°C
Operating and storage temperature range	T_j, T_{stg}	-55 to 150	°C

THERMAL RESISTANCE

PARAMETER	SYMBOL	VALUE	UNIT
Junction to ambient ^(a)	$R_{\theta JA}$	125	°C/W
Junction to ambient ^(b)	$R_{\theta JA}$	175	°C/W

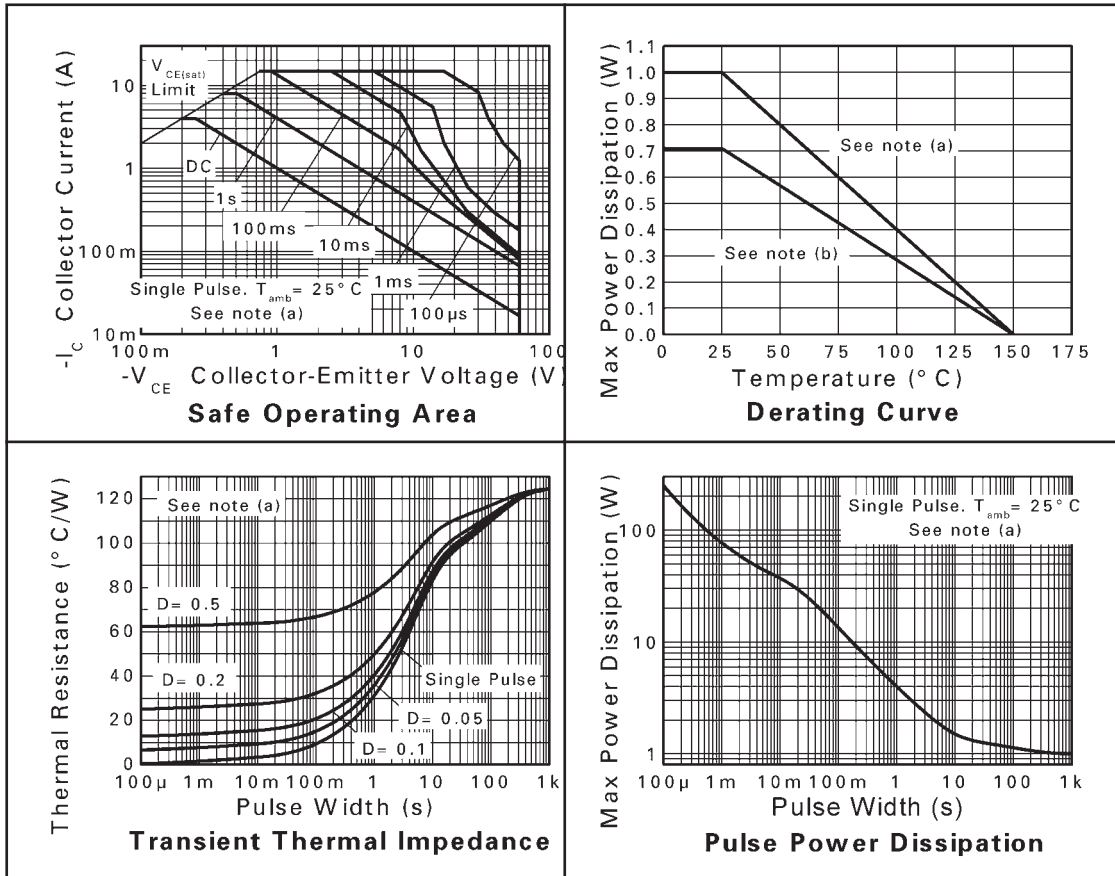
NOTES

(a) For a device through hole mounted on 25mm x 25mm x 1.6mm FR4 PCB with high coverage of single sided 1oz copper, in still air conditions. Collector lead length to solder point 4mm.

(b) For a device mounted in a socket in still air conditions. Collector lead length 10mm.

ZXTP2012A

CHARACTERISTICS



ZXTP2012A

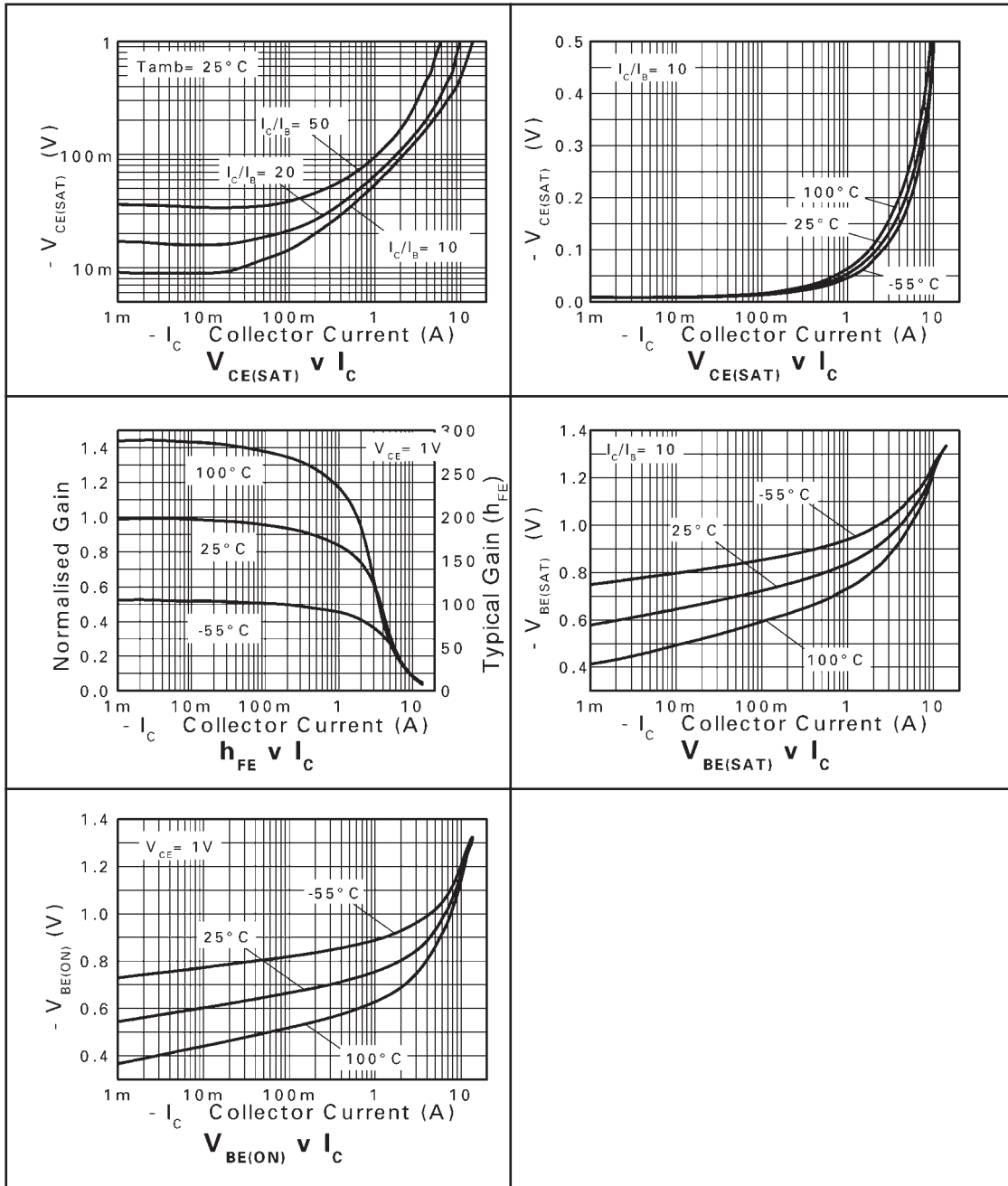
ELECTRICAL CHARACTERISTICS (at $T_{amb} = 25^{\circ}\text{C}$ unless otherwise stated)

PARAMETER	SYMBOL	MIN.	TYP.	MAX.	UNIT	CONDITIONS
Collector-base breakdown voltage	BV_{CBO}	-100	-120		V	$I_C = -100\mu\text{A}$
Collector-emitter breakdown voltage	BV_{CER}	-100	-120		V	$I_C = -1\mu\text{A}$, $R_B \leq 1\text{k}\Omega$
Collector-emitter breakdown voltage	BV_{CEO}	-60	-80		V	$I_C = -10\text{mA}^*$
Emitter-base breakdown voltage	BV_{EBO}	-7	-8.1		V	$I_E = -100\mu\text{A}$
Collector cut-off current	I_{CBO}		<1	-20 -0.5	nA μA	$V_{CB} = -80\text{V}$ $V_{CB} = -80\text{V}$, $T_{amb} = 100^{\circ}\text{C}$
Collector cut-off current	I_{CER} $R \leq 1\text{k}\Omega$		<1	-20 -0.5	nA μA	$V_{CB} = -80\text{V}$ $V_{CB} = -80\text{V}$, $T_{amb} = 100^{\circ}\text{C}$
Emitter cut-off current	I_{EBO}		<1	-10	nA	$V_{EB} = -6\text{V}$
Collector-emitter saturation voltage	$V_{CE(SAT)}$		-14 -50 -80 -145	-20 -65 -115 -210	mV	$I_C = -0.1\text{A}$, $I_B = -10\text{mA}^*$ $I_C = -1\text{A}$, $I_B = -100\text{mA}^*$ $I_C = -2\text{A}$, $I_B = -200\text{mA}^*$ $I_C = -4\text{A}$, $I_B = -400\text{mA}^*$
Base-emitter saturation voltage	$V_{BE(SAT)}$		-960	-1060	mV	$I_C = -4\text{A}$, $I_B = -400\text{mA}^*$
Base-emitter turn-on voltage	$V_{BE(ON)}$		-850	-960	mV	$I_C = -4\text{A}$, $V_{CE} = -1\text{V}^*$
Static forward current transfer ratio	h_{FE}	100 100 65 10	250 200 120 25	300		$I_C = -10\text{mA}$, $V_{CE} = -1\text{V}^*$ $I_C = -1\text{A}$, $V_{CE} = -1\text{V}^*$ $I_C = -4\text{A}$, $V_{CE} = -1\text{V}^*$ $I_C = -10\text{A}$, $V_{CE} = -1\text{V}^*$
Transition frequency	f_T		120		MHz	$I_C = -100\text{mA}$, $V_{CE} = -10\text{V}$ $f = 50\text{MHz}$
Output capacitance	C_{OBO}		48		pF	$V_{CB} = -10\text{V}$, $f = 1\text{MHz}^*$
Switching times	t_{ON} t_{OFF}		39 370		ns	$I_C = -1\text{A}$, $V_{CC} = -10\text{V}$, $I_{B1} = I_{B2} = -100\text{mA}$

* Measured under pulsed conditions. Pulse width $\leq 300\mu\text{s}$; duty cycle $\leq 2\%$.

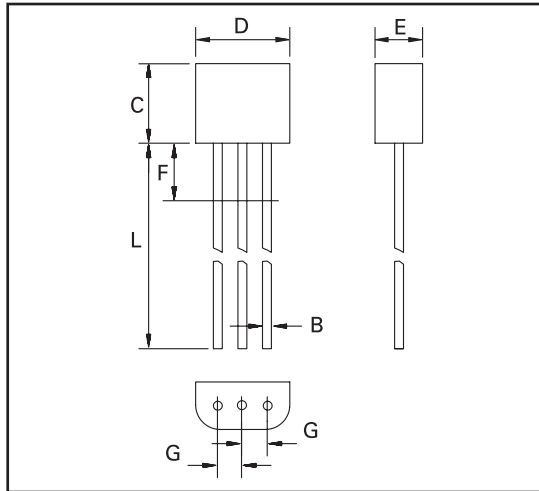
ZXTP2012A

TYPICAL CHARACTERISTICS



ZXTP2012A

PACKAGE OUTLINE



Controlling dimensions are in millimeters. Approximate conversions are given in inches

PACKAGE DIMENSIONS

DIM	Millimeters		Inches	
	Min	Max	Min	Max
A	0.41	0.495	0.016	0.0195
B	0.41	0.495	0.016	0.0195
C	3.61	4.01	0.142	0.158
D	4.37	4.77	0.172	0.188
E	2.16	2.41	0.085	0.095
F	—	2.50	—	0.098
G	1.27 NOM		0.050 NOM	
L	13.00	13.97	0.512	0.550

© Zetex Semiconductors plc 2005

Europe	Americas	Asia Pacific	Corporate Headquarters
Zetex GmbH Streitfeldstraße 19 D-81673 München Germany	Zetex Inc 700 Veterans Memorial Hwy Hauppauge, NY 11788 USA	Zetex (Asia) Ltd 3701-04 Metroplaza Tower 1 Hing Fong Road, Kwai Fong Hong Kong	Zetex Semiconductors plc Zetex Technology Park Chadderton, Oldham, OL9 9LL United Kingdom
Telefon: (49) 89 45 49 49 0 Fax: (49) 89 45 49 49 49 europa.sales@zetex.com	Telephone: (1) 631 360 2222 Fax: (1) 631 360 8222 usa.sales@zetex.com	Telephone: (852) 26100 611 Fax: (852) 24250 494 asia.sales@zetex.com	Telephone (44) 161 622 4444 Fax: (44) 161 622 4446 hq@zetex.com

These offices are supported by agents and distributors in major countries world-wide.

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.

For the latest product information, log on to www.zetex.com



ISSUE 2 - NOVEMBER 2005

Данный компонент на территории Российской Федерации

Вы можете приобрести в компании MosChip.

Для оперативного оформления запроса Вам необходимо перейти по данной ссылке:

<http://moschip.ru/get-element>

Вы можете разместить у нас заказ для любого Вашего проекта, будь то серийное производство или разработка единичного прибора.

В нашем ассортименте представлены ведущие мировые производители активных и пассивных электронных компонентов.

Нашей специализацией является поставка электронной компонентной базы двойного назначения, продукции таких производителей как XILINX, Intel (ex.ALTERA), Vicor, Microchip, Texas Instruments, Analog Devices, Mini-Circuits, Amphenol, Glenair.

Сотрудничество с глобальными дистрибьюторами электронных компонентов, предоставляет возможность заказывать и получать с международных складов практически любой перечень компонентов в оптимальные для Вас сроки.

На всех этапах разработки и производства наши партнеры могут получить квалифицированную поддержку опытных инженеров.

Система менеджмента качества компании отвечает требованиям в соответствии с ГОСТ Р ИСО 9001, ГОСТ РВ 0015-002 и ЭС РД 009

Офис по работе с юридическими лицами:

105318, г.Москва, ул.Щербаковская д.3, офис 1107, 1118, ДЦ «Щербаковский»

Телефон: +7 495 668-12-70 (многоканальный)

Факс: +7 495 668-12-70 (доб.304)

E-mail: info@moschip.ru

Skype отдела продаж:

moschip.ru

moschip.ru_4

moschip.ru_6

moschip.ru_9