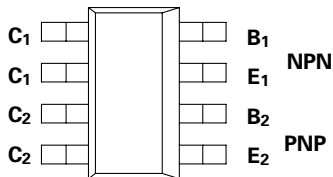


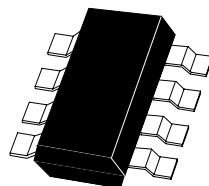
SM-8 COMPLEMENTARY MEDIUM POWER DARLINGTON TRANSISTORS

ISSUE 2 – February 1997

ZDT6702



PARTMARKING DETAIL – T6702



SM-8
(8 LEAD SOT223)

ABSOLUTE MAXIMUM RATINGS.

PARAMETER	SYMBOL	NPN	PNP	UNIT
Collector-Base Voltage	V_{CBO}	80	-80	V
Collector-Emitter Voltage	V_{CEO}	60	-60	V
Emitter-Base Voltage	V_{EBO}	10	-10	V
Peak Pulse Current	I_{CM}	4	-4	A
Continuous Collector Current	I_C	1.75	-1.75	A
Operating and Storage Temperature Range	$T_j; T_{stg}$	-55 to +150		°C

THERMAL CHARACTERISTICS

PARAMETER	SYMBOL	VALUE	UNIT
Total Power Dissipation at $T_{amb} = 25^\circ\text{C}^*$ Any single die "on" Both die "on" equally	P_{tot}	2.25 2.75	W W
Derate above 25°C^* Any single die "on" Both die "on" equally		18 22	mW/°C mW/°C
Thermal Resistance - Junction to Ambient* Any single die "on" Both die "on" equally		55.6 45.5	°C/W °C/W

* The power which can be dissipated assuming the device is mounted in a typical manner on a PCB with copper equal to 2 inches square.

ZETEX

ZDT6702

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	$V_{(BR)CBO}$	80	200		V	$I_C=100\mu\text{A}$
Collector-Emitter Breakdown Voltage	$V_{(BR)CEO}$	60	100		V	$I_C=10\text{mA}^*$
Emitter-Base Breakdown Voltage	$V_{(BR)EBO}$	10	15		V	$I_E=100\mu\text{A}$
Collector Cutoff Current	I_{CBO}		0.5	10 10	nA μA	$V_{CB}=60\text{V}$ $V_{CB}=60\text{V}, T_{amb}=100^{\circ}\text{C}$
Emitter Cutoff Current	I_{EBO}		0.1	10	nA	$V_{EB}=8\text{V}$
Collector-Emitter Cutoff Current	I_{CES}		50	500	nA	$V_{CE}=60\text{V}$
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$		0.83 1.0	0.95 1.28	V V	$I_C=0.5\text{A}, I_B=0.5\text{mA}^*$ $I_C=1.75\text{A}, I_B=2\text{mA}^*$
Base-Emitter Saturation Voltage	$V_{BE(sat)}$		1.68	1.85	V	$I_C=1.75\text{A}, I_B=2\text{mA}^*$
Base-Emitter Turn-On Voltage	$V_{BE(on)}$		1.55	1.75	V	$I_C=1.75\text{A}, V_{CE}=5\text{V}^*$
Static Forward Current Transfer Ratio	h_{FE}	5K 5K 3.5K 0.5K	13K 13K 9K 2K			$I_C=10\text{mA}, V_{CE}=5\text{V}$ $I_C=500\text{mA}, V_{CE}=5\text{V}$ $I_C=2\text{A}, V_{CE}=5\text{V}$ $I_C=4\text{A}, V_{CE}=5\text{V}^*$
Transition Frequency	f_T		140		MHz	$I_C=100\text{mA}, V_{CE}=10\text{V}$ $f=100\text{MHz}$
Input Capacitance	C_{ibo}		70		pF	$V_{EB}=500\text{mV}, f=1\text{MHz}$
Output Capacitance	C_{obo}		15		pF	$V_{CB}=10\text{V}, f=1\text{MHz}$
Switching Times	t_{on}		0.5		μs	$I_C=500\text{mA}, V_{CE}=10\text{V}$ $I_{B1}=I_{B2}=0.5\text{mA}$
	t_{off}		2.1		μs	

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

ZDT6702

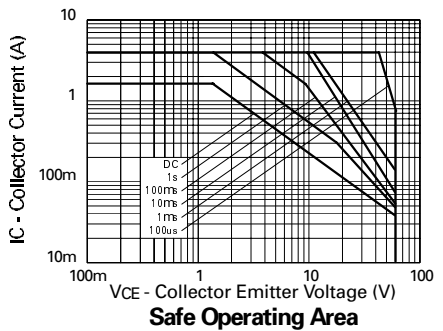
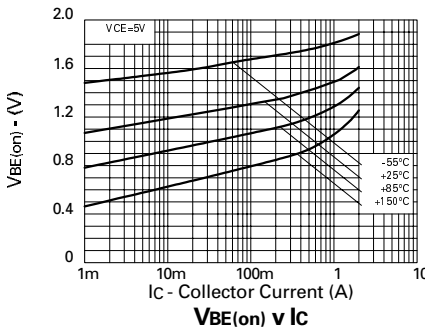
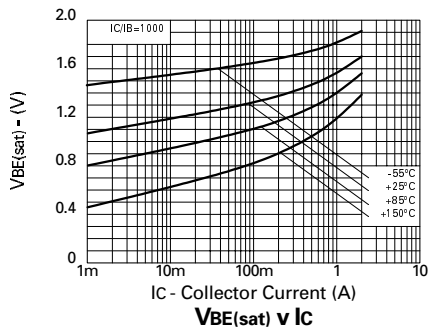
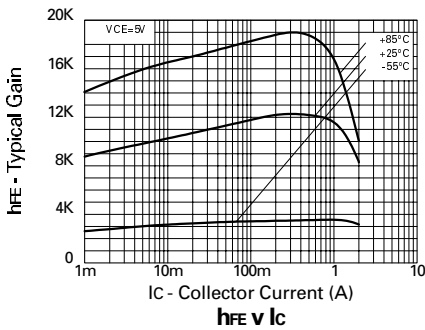
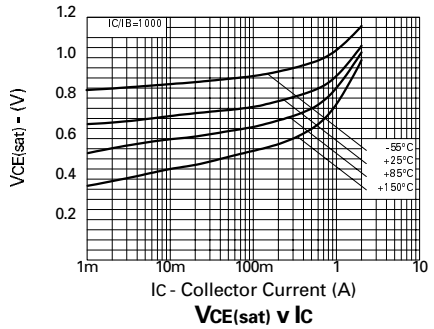
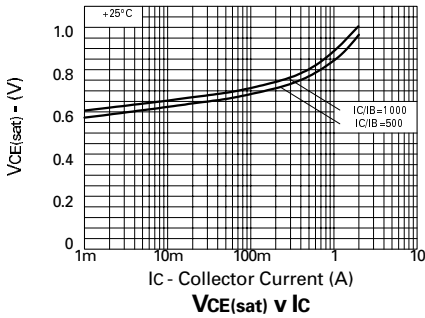
PNP TRANSISTOR ELECTRICAL CHARACTERISTICS (at $T_{amb} = 25^{\circ}\text{C}$ unless otherwise stated).

PARAMETER	SYMBOL	MIN.	TYP.	MAX.	UNIT	CONDITIONS.
Collector-Base Breakdown Voltage	$V_{(BR)CBO}$	-80	-120		V	$I_C = -100\mu\text{A}$
Collector-Emitter Breakdown Voltage	$V_{CEO(SUS)}$	-60	-90		V	$I_C = -10\text{mA}^*$
Emitter-Base Breakdown Voltage	$V_{(BR)EBO}$	-10	-15		V	$I_E = -100\mu\text{A}$
Collector Cutoff Current	I_{CBO}		-0.5	-10 -10	nA μA	$V_{CB} = -60\text{V}$ $V_{CB} = -60\text{V}$, $T_{amb} = 100^{\circ}\text{C}$
Emitter Cutoff Current	I_{EBO}		-0.1	-10	nA	$V_{EB} = -8\text{V}$
Collector-Emitter Cutoff Current	I_{CES}		-50	-500	nA	$V_{CE} = -60\text{V}$
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$		-0.86 -1.05	-1.0 -1.28	V V	$I_C = -0.5\text{A}$, $I_B = -0.5\text{mA}^*$ $I_C = -1.75\text{A}$, $I_B = -2\text{mA}^*$
Base-Emitter Saturation Voltage	$V_{BE(sat)}$		-1.7	-1.9	V	$I_C = -1.75\text{A}$, $I_B = -2\text{mA}^*$
Base-Emitter Turn-On Voltage	$V_{BE(on)}$		-1.55	-1.85	V	$I_C = -1.75\text{A}$, $V_{CE} = -5\text{V}^*$
Static Forward Current Transfer Ratio	h_{FE}	2K 2K 1.5K 1K	8K 8K 7K 4K			$I_C = -10\text{mA}$, $V_{CE} = -5\text{V}^*$ $I_C = -500\text{mA}$, $V_{CE} = -5\text{V}^*$ $I_C = -2\text{A}$, $V_{CE} = -5\text{V}^*$ $I_C = -4\text{A}$, $V_{CE} = -5\text{V}^*$
Transition Frequency	f_T		140		MHz	$I_C = -100\text{mA}$, $V_{CE} = -10\text{V}$ $f = 100\text{MHz}$
Input Capacitance	C_{ibo}		90		pF	$V_{EB} = -0.5\text{V}$, $f = 1\text{MHz}$
Output Capacitance	C_{obo}		25		pF	$V_{CE} = -10\text{V}$, $f = 1\text{MHz}$
Switching Times	t_{on}		0.75		μs	$I_C = -0.5\text{A}$, $V_{CE} = -10\text{V}$ $I_{B1} = I_{B2} = -0.5\text{mA}$
	t_{off}		1.2		μs	

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

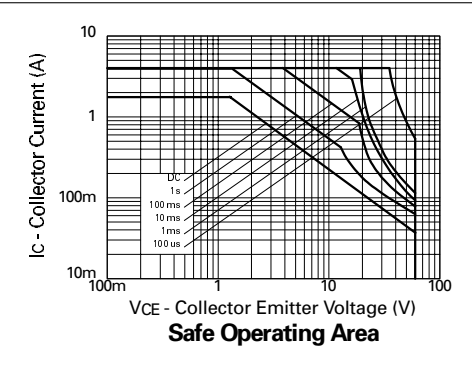
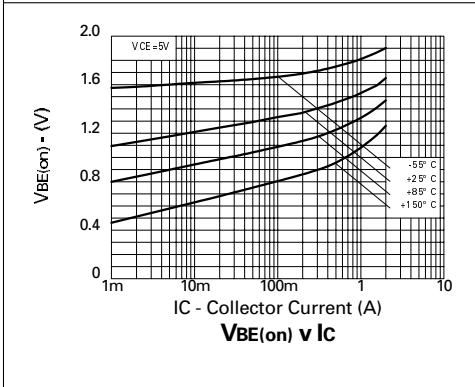
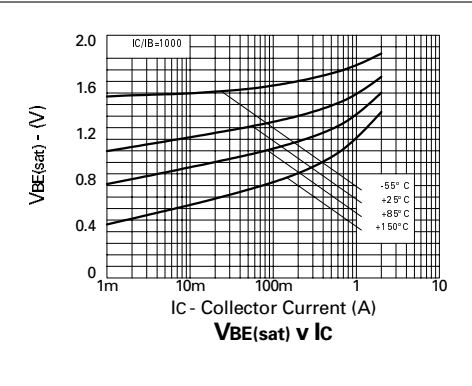
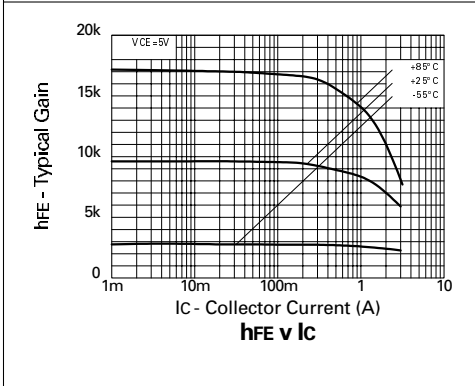
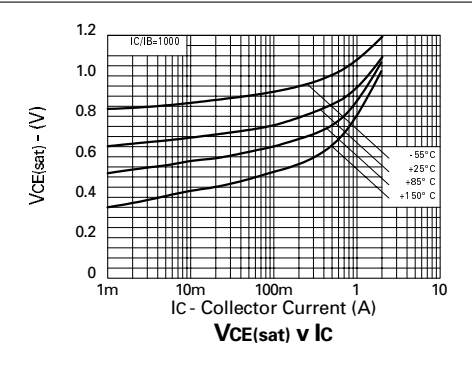
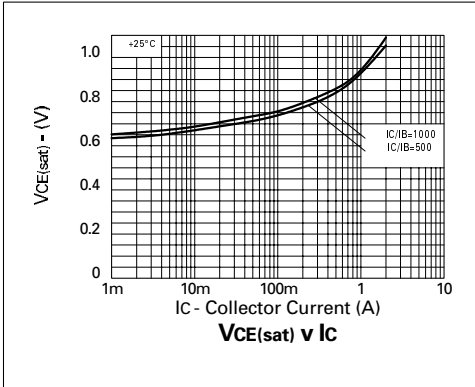
ZDT6702

TYPICAL CHARACTERISTICS (NPN TRANSISTOR)



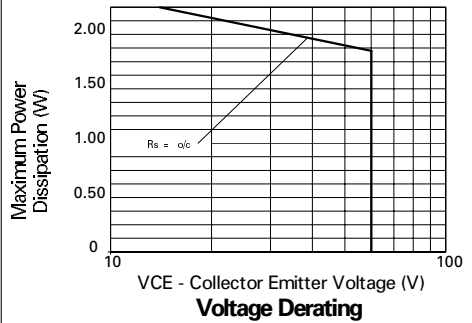
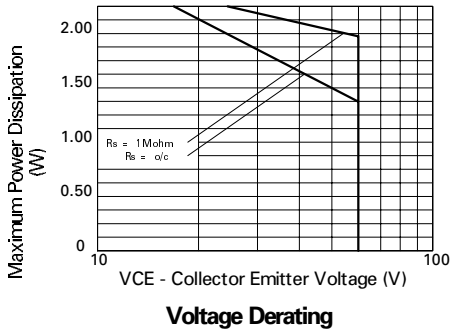
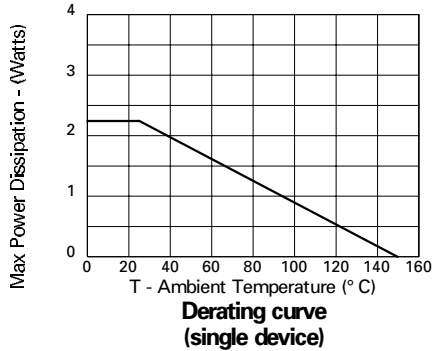
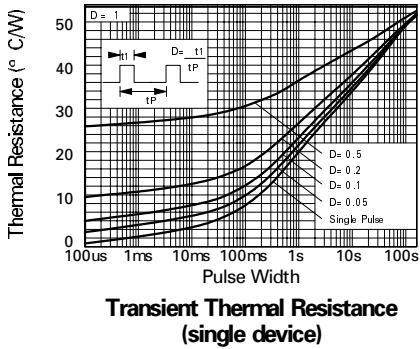
ZDT6702

TYPICAL CHARACTERISTICS (PNP TRANSISTOR)

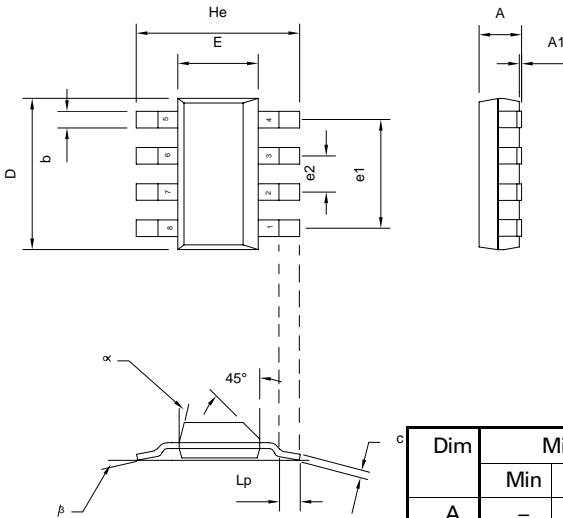


ZDT6702

OTHER CHARACTERISTICS



ZDT6702



Dim	Millimetres			Inches		
	Min	Typ	Max	Min	Typ	Max
A	-	-	1.7	-	-	0.067
A1	0.02	-	0.1	0.0008	-	0.004
b	-	0.7	-	-	0.028	-
c	0.24	-	0.32	0.009	-	0.013
D	6.3	-	6.7	0.248	-	0.264
E	3.3	-	3.7	0.130	-	0.145
e1	-	4.59	-	-	0.180	-
e2	-	1.53	-	-	0.060	-
He	6.7	-	7.3	0.264	-	0.287
Lp	0.9	-	-	0.035	-	-
α	-	-	15°	-	-	15°
β	-	10°	-	-	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
 Streifeldstraße 19
 D-81673 München
 Germany
 Telefon: (49) 89 45 49 49 0
 Fax: (49) 89 45 49 49 9

Zetex Inc.
 47 Mall Drive, Unit 4
 Commack NY 11725
 USA
 Telephone: (516) 543-7100
 Fax: (516) 864-7630

Zetex (Asia) Ltd.
 3510 Metroplaza, Tower 2
 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 1997
Internet:
<http://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.

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