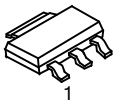
PZT1816

NPN PLANAR TRANSISTOR

HIGH CURRENT SWITCHIG APPLICATIONS



SOT-223

■ FEATURES

* Low collector-to-emitter saturation voltage
* Good linearity of h_{FE}
* Small and slim package facilitating compactness of sets.
* High f_T
* Fast switching speed

■ ORDERING INFORMATION

Ordering Number		Package	Pin Assignment			Packing
Lead Free	Halogen Free		1	2	3	
PZT1816L-x-AA3-R	PZT1816G-x-AA3-R	SOT-223	B	C	E	Tape Reel

PZT1816L-x-AA3-R

(1)Packing Type	(1) R: Tape Reel
(2)Package Type	(2) AA3: SOT-223
(3)Rank	(3) x: refer to Classification of h_{FE1}
(4)Lead Free	(4) G: Halogen Free ,L: Lead Free

Copyright © 2011 Unisonic Technologies Co., Ltd

■ ABSOLUTE MAXIMUM RATINGS (T_A =25℃)

PARAMETER		SYMBOL	RATINGS	UNIT
Collector-Base Voltage		V_{CBO}	120	V
Collector-Emitter Voltage		V_{CEO}	100	V
Emitter-Base Voltage		V_{EBO}	6	V
Collector Current	DC	I_C	4	A
	PULSE(Note 2)		8	A
Power Dissipation		P_D	1	W
Junction Temperature		T_J	+150	°C
Storage Temperature		T_{STG}	-40 ~ +150	°C

Note1: Absolute maximum ratings are those values beyond which the device could be permanently damaged. Absolute maximum ratings are stress ratings only and functional device operation is not implied.
2: Duty=1/2, Pw=20ms

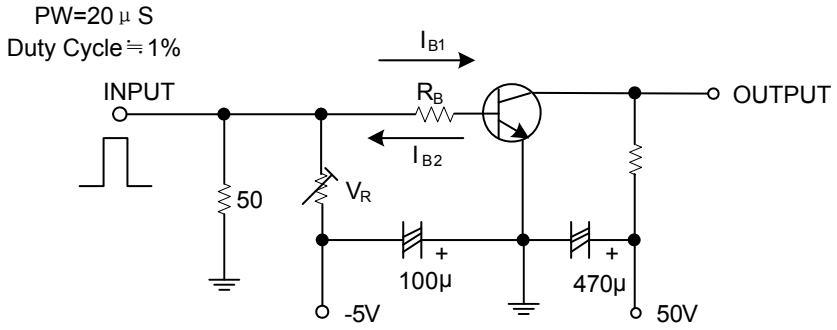
■ ELECTRICAL CHARACTERISTICS (T_A=25°C, unless otherwise specified)

PARAMETER	SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT
Collector Base Breakdown Voltage	BV_{CBO}	I_C =10μA, I_E =0	120			V
Collector Emitter Breakdown Voltage	BV_{CEO}	I_C =1mA, R_B=∞	100			V
Emitter Base Breakdown Voltage	BV_{EBO}	I_E =10μA, I_C=0	6			V
Base-Emitter Saturation Voltage	$V_{BE(SAT)}$	I_C = 2A, I_B =0.2A		0.9	1.2	V
Collector-Emitter Saturation Voltage	$V_{CE(SAT)}$	I_C = 2A, I_B=0.2A		150	400	mV
Collector Cut-Off Current	I_{CBO}	V_{CB} = 100 V, I_E =0			1	μA
Emitter Cut-Off Current	I_{EBO}	V_{EB} = 4V, I_C=0			1	μA
DC Current Transfer Ratio	h_{FE1}	V_{CE} = 5V, I_C = 0.5A	70		400	
	h_{FE2}	V_{CE} =5V, I_C = 3A	40			
Transition Frequency	f_T	V_{CE} =10V, I_C =0.5A		180		MHz
Output Capacitance	C_{ob}	V_{CB} =10V, I_E =0A, f =1MHz		40		pF
Turn-on Time	t_{ON}	See test circuit		100		ns
Storage Time	t_{STG}	See test circuit		900		ns
Fall Time	t_F	See test circuit		50		ns

■ CLASSIFICATION of h_{FE1}

RANK	R	S	T	Q
RANGE	100 - 200	140 - 280	200 - 400	70 -140

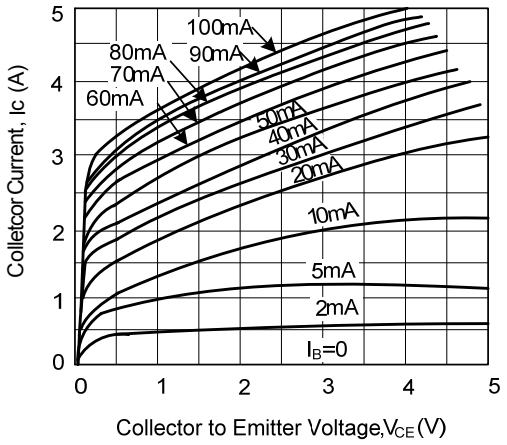
■ TEST CIRCUIT



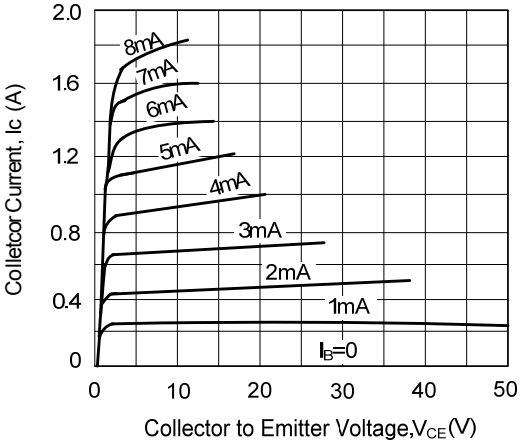
Ic=10, I_{B1}= -10, I_{B2}=2A
Unit (resistance: Ω , capacitance: F)

■ TYPICAL CHARACTERISTICS

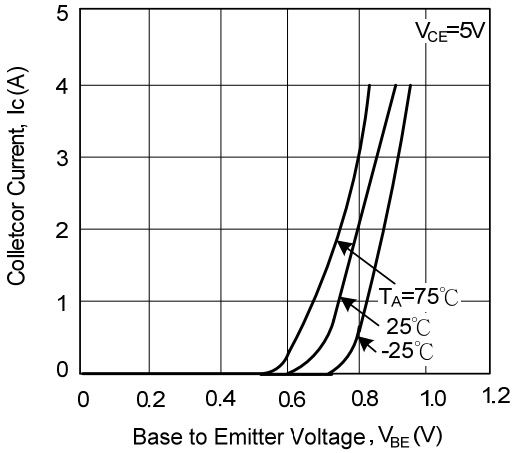
Ic-V_{CE}



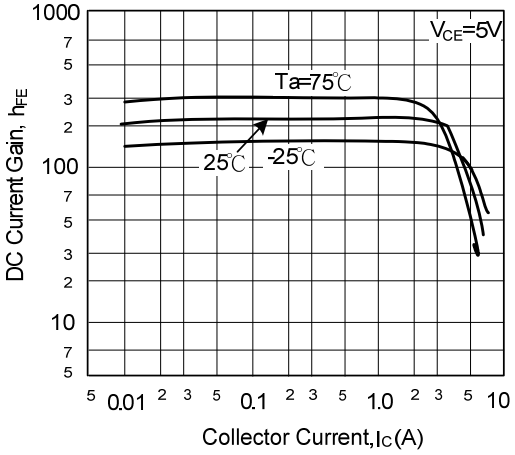
Ic-V_{CE}



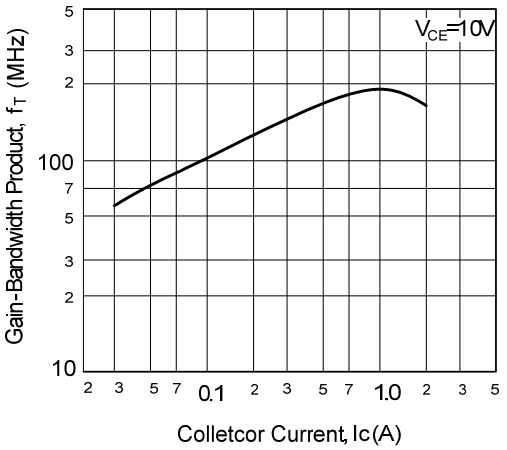
Ic-V_{BE}



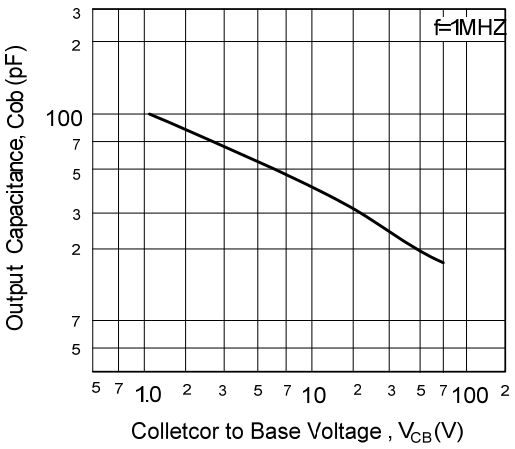
h_{FE}-Ic



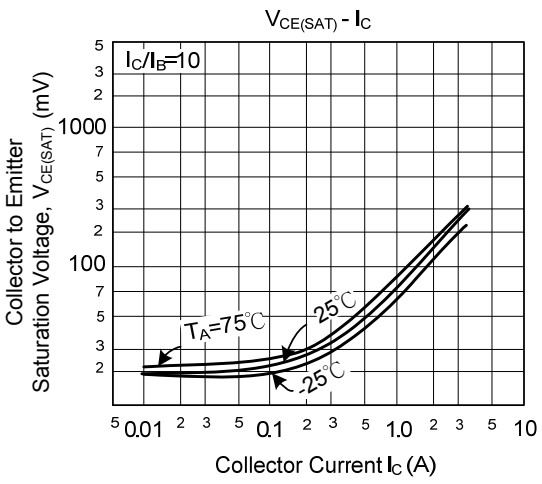
f_T-I c

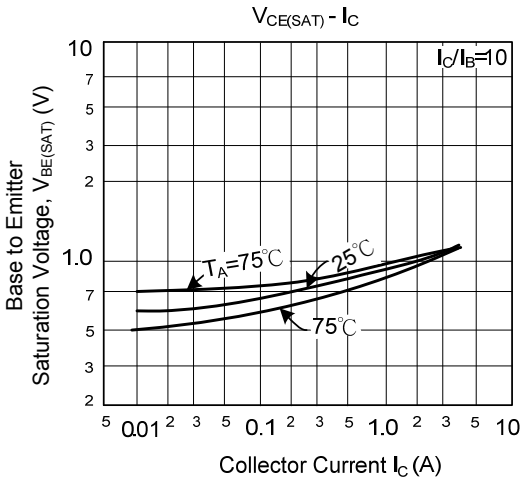


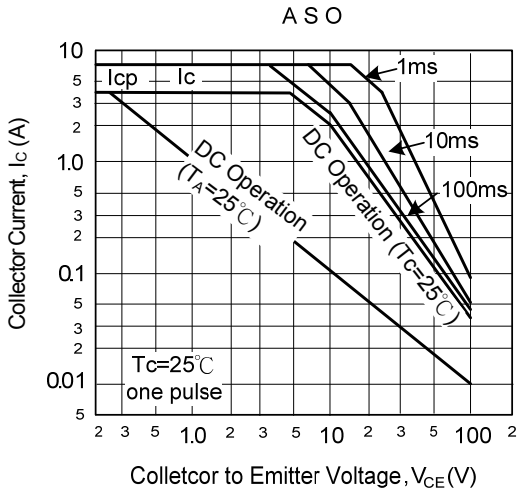
Cob-V_{CB}

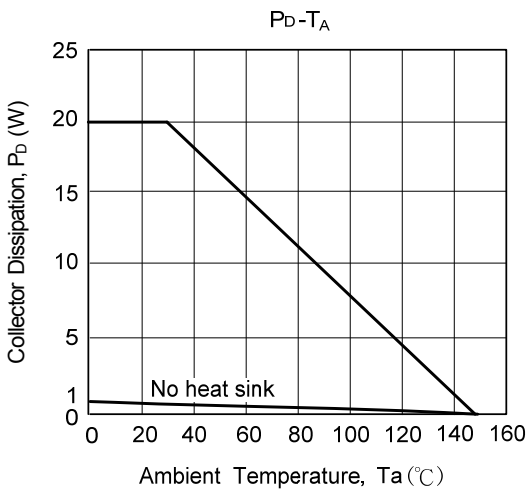


■ TYPICAL CHARACTERISTICS(Cont.)









UTC assumes no responsibility for equipment failures that result from using products at values that exceed, even momentarily, rated values (such as maximum ratings, operating condition ranges, or other parameters) listed in products specifications of any and all UTC products described or contained herein. UTC products are not designed for use in life support appliances, devices or systems where malfunction of these products can be reasonably expected to result in personal injury. Reproduction in whole or in part is prohibited without the prior written consent of the copyright owner. The information presented in this document does not form part of any quotation or contract, is believed to be accurate and reliable and may be changed without notice.