Transys Electronics LIMITED

SOT-23 Formed SMD Package

BF821
BF823

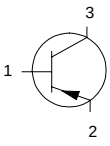
SILICON EPITAXIAL TRANSISTORS

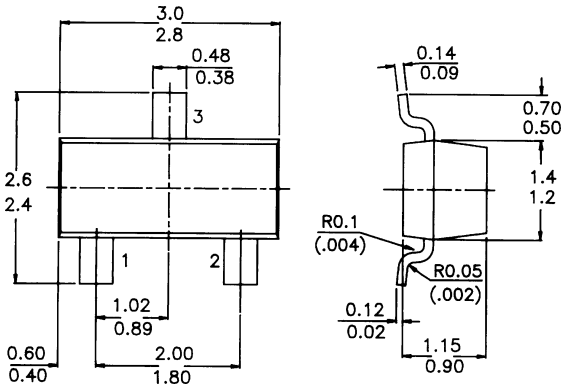
P–N–P transistors

Marking
BF821 = 1W
BF823 = 1Y

PACKAGE OUTLINE DETAILS
ALL DIMENSIONS IN mm

Pin configuration
1 = BASE
2 = EMITTER
3 = COLLECTOR





ABSOLUTE MAXIMUM RATINGS

			BF821	***BF823***	
Collector–base voltage (open emitter)	$-V_{CB0}$	*max.*	*300*	*250*	*V*
Collector–emitter voltage (open base)	$-V_{CE0}$	*max.*	—	*250*	*V*
Collector–emitter voltage (R_{BE} = 2,7 kW)	$-V_{CER}$	*max.*	*300*	–	*V*
Collector current (peak value)	$-I_{CM}$	*max.*	*100*		*mA*
Total power dissipation up to T_{amb} = 25 °C	P_{tot}	*max.*	*250*		mW
Junction temperature	T_j	*max.*	*150*		*° C*
D.C. current gain					
$-I_C$ = 25 mA; $-V_{CE}$ = 20 V	h_{FE}	>	*50*		
Feedback capacitance at f = 1 MHz					
· *I_C = 0; $-V_{CE}$ = 30 V*	C_{re}	<	*1,6*		*pF*
Transition frequency at f = 35 MHz					
$-I_C$ = 10 mA; $-V_{CE}$ = 10 V	f_T	>	*60*		MHz

RATINGS *(at T_A = 25°C unless otherwise specified)*
Limiting values

			BF821	BF823	
Collector–base voltage (open emitter)	$-V_{CB0}$	*max.*	*300*	*250*	*V*
Collector–emitter voltage (open base)	$-V_{CE0}$	*max.*	—	*250*	*V*
Collector–emitter voltage (R_{BE} = 2,7 kW)	$-V_{CER}$	*max.*	*300*	—	*V*
Emitter–base voltage (open collector)	$-V_{EB0}$	*max.*	*5*		*V*
Collector current (d.c.)	$-I_C$	*max.*	*50*		*mA*
Collector current (peak value)	$-I_{CM}$	*max.*	*100*		*mA*
Total power dissipation					
up to T_{amb} = 25 °C	P_{tot}	*max.*	*250*		mW
Storage temperature	T_{stg}		*–55 to +150*		*° C*
Junction temperature	T_j	*max.*	*150*		*° C*

THERMAL RESISTANCE

From junction to ambient	$R_{th\ j-a}$	=	*500*	KW

CHARACTERISTICS

T_j = 25 °C unless otherwise specified			BF821	BF823	
Collector cut–off current					
I_E = 0; $-V_{CB}$ = 200V	$-I_{CB0}$	<	*10*	*10*	*nA*
Collector–emitter voltage					
R_{BE} = 2,7 kW; V_{CE} = 250 V	$-I_{CER}$	<	*50*	*50*	*nA*
R_{BE} = 2,7kW; V_{CE} = 200V; T_j = 150°C	$-I_{CER}$	<	*10*	*10*	*mA*
Saturation voltage					
$-I_C$ = 30 mA; $-I_B$ = 5 mA	$-V_{CEsat}$	<	*0,8*		*V*
D.C. current gain					
I_C = 25 mA; $-V_{CE}$ = 20 V	h_{FE}	>	*50*		
Transition frequency at f = 35 MHz					
$-I_C$ = 10 mA; —V_{CE} = 10 V	f_T	>	*60*		MHz
Feedback capacitance at f = 1 MHz					
I_C = 0; $-V_{CE}$ = 30 V	*Cre*	<	*1,6*		*pF*