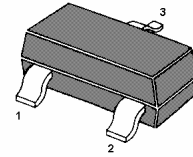


## NPN Darlington Transistors

for preamplifier input applications



1. Base 2. Emitter 3. Collector  
SOT-23 Plastic Package

### Absolute Maximum Ratings ( $T_a = 25\text{ }^\circ\text{C}$ )

Parameter	Symbol	Value	Unit
Collector Base Voltage	$V_{CBO}$	30	V
Collector Emitter Voltage	$V_{CEO}$	30	V
Emitter Base Voltage	$V_{EBO}$	10	V
Collector Current	$I_C$	300	mA
Typical Thermal Resistance <sup>1)</sup>	$R_{\theta JA}$	556	$^\circ\text{C/W}$
Total Power Dissipation	$P_{tot}$	225	mW
Junction Temperature	$T_j$	150	$^\circ\text{C}$
Storage Temperature Range	$T_S$	- 55 to + 150	$^\circ\text{C}$

<sup>1)</sup> Thermal resistance from junction to ambient at P.C.B. mounted

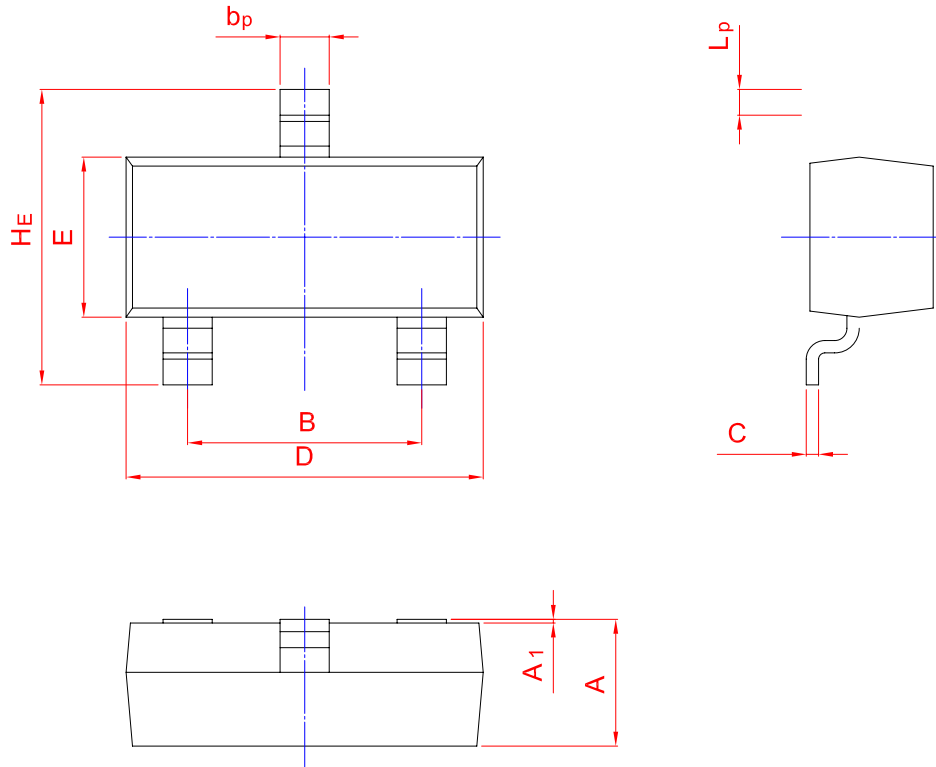
### Characteristics at $T_a = 25\text{ }^\circ\text{C}$

Parameter	Symbol	Min.	Typ.	Max.	Unit
DC Current Gain	$h_{FE}$				
at $V_{CE} = 5\text{ V}$ , $I_C = 10\text{ mA}$	$h_{FE}$	10000	-	-	-
at $V_{CE} = 5\text{ V}$ , $I_C = 100\text{ mA}$	$h_{FE}$	20000	-	-	-
Collector Cutoff Current	$I_{CBO}$				
at $V_{CB} = 30\text{ V}$	$I_{CBO}$	-	-	100	nA
Collector Emitter Breakdown Voltage	$V_{(BR)CEO}$				
at $I_C = 10\text{ mA}$	$V_{(BR)CEO}$	30	-	-	V
Collector Emitter Saturation Voltage	$V_{CE(sat)}$				
at $I_C = 100\text{ mA}$ , $I_B = 0.1\text{ mA}$	$V_{CE(sat)}$	-	-	1.5	V
Base Emitter On-state Voltage	$V_{BE(on)}$				
at $I_C = 100\text{ mA}$ , $V_{CE} = 5\text{ V}$	$V_{BE(on)}$	-	-	2.0	V
Transition Frequency	$f_T$				
at $V_{CE} = 5\text{ V}$ , $I_C = 50\text{ mA}$ , $f = 100\text{ MHz}$	$f_T$	125	-	-	MHz

## PACKAGE OUTLINE

Plastic surface mounted package; 3 leads

SOT-23



UNIT	A	B	$b_p$	C	D	E	$H_E$	$A_1$	$L_p$
mm	1.40	2.04	0.50	0.19	3.10	1.65	3.00	0.100	0.50
	0.95	1.78	0.35	0.08	2.70	1.20	2.20	0.013	0.20