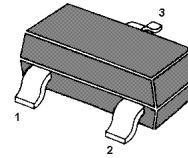


# NPN Darlington Transistors

for preamplifier input applications



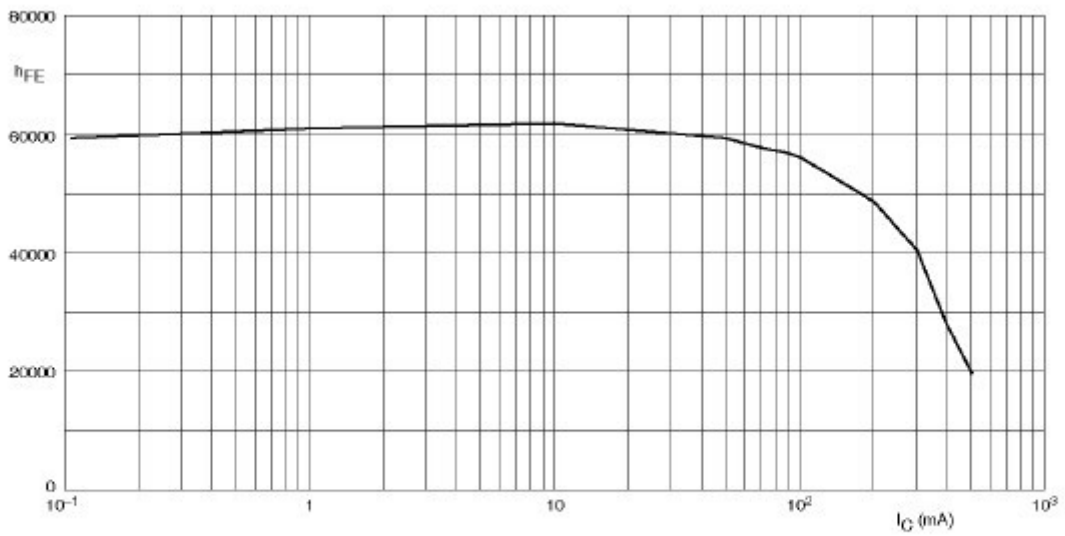
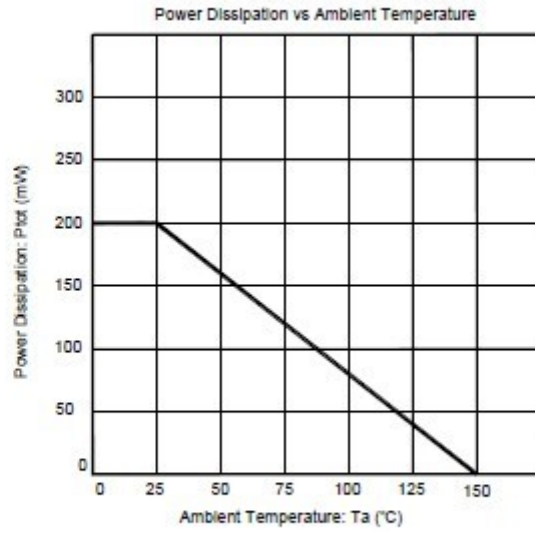
1.Base 2.Emitter 3.Collector  
SOT-23 Plastic Package

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

Parameter		Symbol	Value	Unit
Collector Base Voltage	BCV27	$V_{CB0}$	40	V
	BCV47		80	
Collector Emitter Voltage	BCV27	$V_{CE0}$	30	V
	BCV47		60	
Emitter Base Voltage		$V_{EB0}$	10	V
Collector Current		$I_C$	500	mA
Peak Collector Current		$I_{CM}$	800	mA
Base Current		$I_B$	100	mA
Total Power Dissipation		$P_{tot}$	200	mW
Junction Temperature		$T_j$	150	$^\circ\text{C}$
Storage Temperature Range		$T_S$	- 65 to + 150	$^\circ\text{C}$

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

Parameter		Symbol	Min.	Typ.	Max.	Unit
DC Current Gain at $V_{CE} = 5\text{ V}$ , $I_C = 1\text{ mA}$  at $V_{CE} = 5\text{ V}$ , $I_C = 10\text{ mA}$  at $V_{CE} = 5\text{ V}$ , $I_C = 100\text{ mA}$	BCV27	$h_{FE}$	4000	-	-	-
	BCV47	$h_{FE}$	2000	-	-	-
	BCV27	$h_{FE}$	10000	-	-	-
	BCV47	$h_{FE}$	4000	-	-	-
	BCV27	$h_{FE}$	20000	-	-	-
	BCV47	$h_{FE}$	10000	-	-	-
Collector Cutoff Current at $V_{CB} = 30\text{ V}$ at $V_{CB} = 60\text{ V}$	BCV27	$I_{CBO}$	-	-	100	nA
	BCV47		-	-	100	
Emitter Cutoff Current at $V_{EB} = 10\text{ V}$		$I_{EBO}$	-	-	100	nA
Collector Base Breakdown Voltage at $I_C = 100\text{ }\mu\text{A}$	BCV27	$V_{(BR)CBO}$	40	-	-	V
	BCV47		80	-	-	
Collector Emitter Breakdown Voltage at $I_C = 10\text{ mA}$	BCV27	$V_{(BR)CEO}$	30	-	-	V
	BCV47		60	-	-	
Emitter Base Breakdown Voltage at $I_E = 10\text{ }\mu\text{A}$		$V_{(BR)EBO}$	10	-	-	V
Collector Emitter Saturation Voltage at $I_C = 100\text{ mA}$ , $I_B = 0.1\text{ mA}$		$V_{CE(sat)}$	-	-	1	V
Base Emitter Saturation Voltage at $I_C = 100\text{ mA}$ , $I_B = 0.1\text{ mA}$		$V_{BE(sat)}$	-	-	1.5	V
Base Emitter On-state Voltage at $I_C = 10\text{ mA}$ , $V_{CE} = 5\text{ V}$		$V_{BE(on)}$	-	-	1.4	V
Transition Frequency at $V_{CE} = 5\text{ V}$ , $I_C = 30\text{ mA}$ , $f = 100\text{ MHz}$		$f_T$	-	220	-	MHz



$V_{CE} = 2V$ .

DC current gain; typical values.

## **PACKAGE OUTLINE**

**Plastic surface mounted package; 3 leads**

**SOT-23**

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