

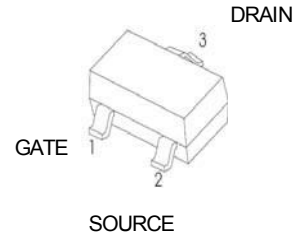
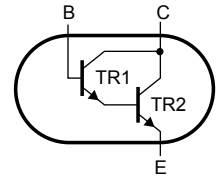


BCV27T (KCV27T) Darlington Transistors

■ Features

- Medium current (max. 500 mA)
- Low voltage (max. 60 V)
- High DC current gain (min. 20 000).
- Complements to BCV26

Marking FF



SOT-523

■ Absolute Maximum Ratings $T_a = 25^\circ\text{C}$

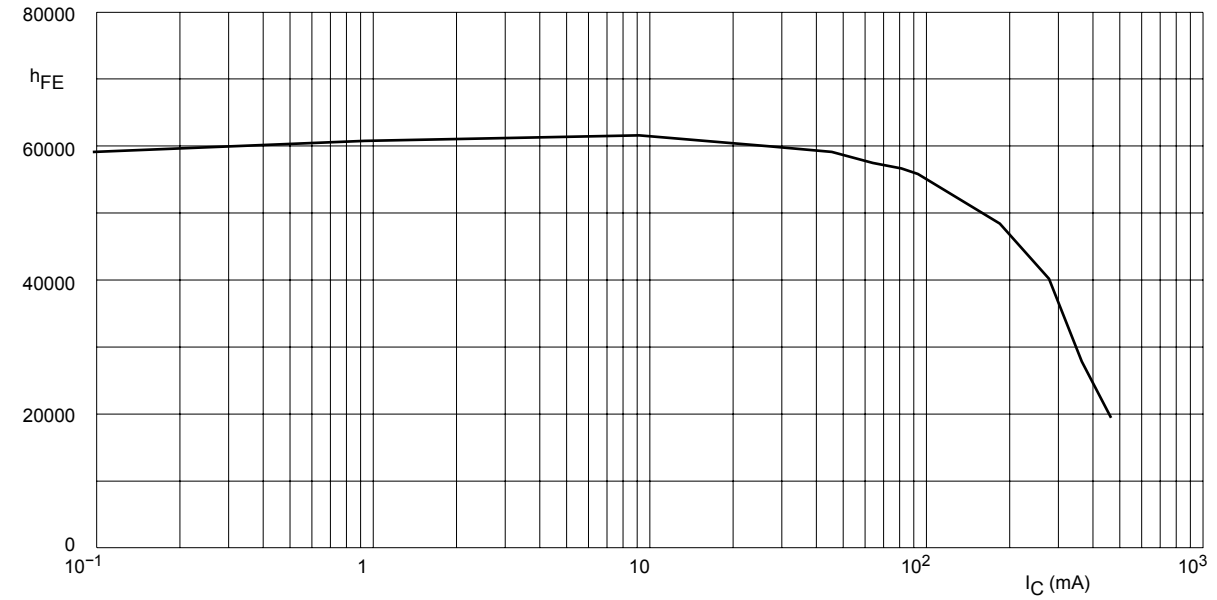
Parameter	Symbol	Rating	Unit
Collector - Base Voltage	V_{CB0}	40	V
Collector - Emitter Voltage	V_{CE0}	30	
Emitter - Base Voltage	V_{EB0}	10	
Collector Current - Continuous	I_c	500	mA
Collector Current - Pulse	I_{CP}	800	
Base Current	I_B	100	
Collector Power Dissipation	P_C	150	mW
Thermal Resistance From Junction to Ambient	$R_{\theta JA}$	500	$^\circ\text{C}/\text{W}$
Junction Temperature	T_J	150	$^\circ\text{C}$
Storage Temperature Range	T_{stg}	-65 to 150	

■ Electrical Characteristics $T_a = 25^\circ\text{C}$

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Collector- base breakdown voltage	V_{CB0}	$I_c = 100 \mu\text{A}, I_E = 0$	40			V
Collector- emitter breakdown voltage	V_{CE0}	$I_c = 1 \text{ mA}, I_B = 0$	30			
Emitter - base breakdown voltage	V_{EB0}	$I_E = 100 \mu\text{A}, I_c = 0$	10			
Collector-base cut-off current	I_{CBO}	$V_{CB} = 30 \text{ V}, I_E = 0$			100	nA
Emitter cut-off current	I_{EBO}	$V_{EB} = 10 \text{ V}, I_c = 0$			100	
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_c = 100 \text{ mA}, I_B = 0.1 \text{ mA}$			1	V
Base - emitter saturation voltage	$V_{BE(sat)}$	$I_c = 100 \text{ mA}, I_B = 0.1 \text{ mA}$			1.6	
Base - emitter on-state voltage	$V_{BE(on)}$	$V_{CE} = 5 \text{ V}, I_c = 10 \text{ mA}$			1.4	
DC current gain	h_{FE}	$V_{CE} = 5 \text{ V}, I_c = 1 \text{ mA}$	4000			
		$V_{CE} = 5 \text{ V}, I_c = 10 \text{ mA}$	10000			
		$V_{CE} = 5 \text{ V}, I_c = 100 \text{ mA}$	20000			
Transition frequency	f_T	$V_{CE} = 5 \text{ V}, I_c = 30 \text{ mA}, f = 100 \text{ MHz}$		220		MHz



■ Typical Characteristics

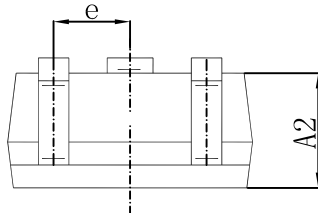
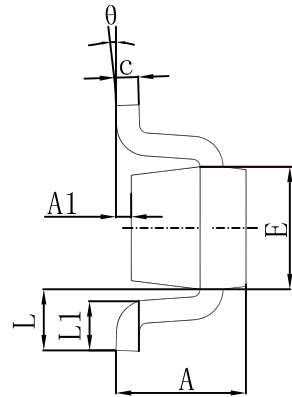
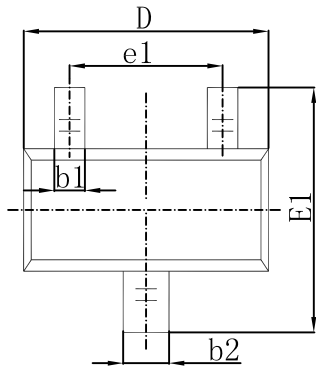


$V_{CE} = 2 V.$

Fig.1 DC current gain; typical values.

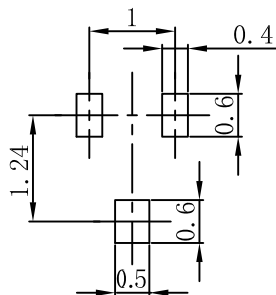


SOT-523 Package Outline Dimensions



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min.	Max.	Min.	Max.
A	0.700	0.900	0.028	0.035
A1	0.000	0.100	0.000	0.004
A2	0.700	0.800	0.028	0.031
b1	0.150	0.250	0.006	0.010
b2	0.250	0.350	0.010	0.014
c	0.100	0.200	0.004	0.008
D	1.500	1.700	0.059	0.067
E	0.700	0.900	0.028	0.035
E1	1.450	1.750	0.057	0.069
e	0.500 TYP.		0.020 TYP.	
e1	0.900	1.100	0.035	0.043
L	0.400 REF.		0.016 REF.	
L1	0.260	0.460	0.010	0.018
theta	0°	8°	0°	8°

SOT-523 Suggested Pad Layout



- Note:
1. Controlling dimension: in millimeters.
 2. General tolerance: $\pm 0.05\text{mm}$.
 3. The pad layout is for reference purposes only.