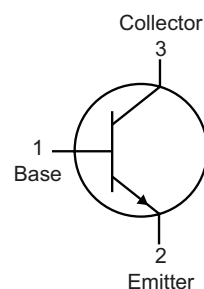
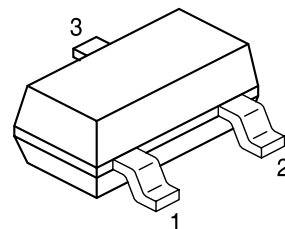


NPN General Purpose Amplifier



Features:

- Low Current (Max.100mA)
- Low Voltage (Max.45V)
- Low Noise

Applications:

- General Purpose Switching and Amplification

Pin Configuration:

1. Base
2. Emitter
3. Collector

Maximum Ratings

Parameter	Symbol	Value	Unit
Collector - Base Voltage	V_{CBO}	50	V
Collector - Emitter Voltage	V_{CEO}	45	
Emitter - Base Voltage	V_{ebo}	5	
Collector Current Continuous	I_C	100	mA
Collector Current - Peak	I_{CM}	200	
Peak Base Current	I_{BM}	200	
Total Power Dissipation	P_D	250	mW
Thermal resistance from junction to ambient	$R_{th j-a}$	500	K/W
Junction and Storage Temperature	T_j, T_{stg}	-65 to +150	°C

NPN General Purpose Amplifier

Electrical Characteristics ($T_a = 25^\circ\text{C}$ unless otherwise noted)

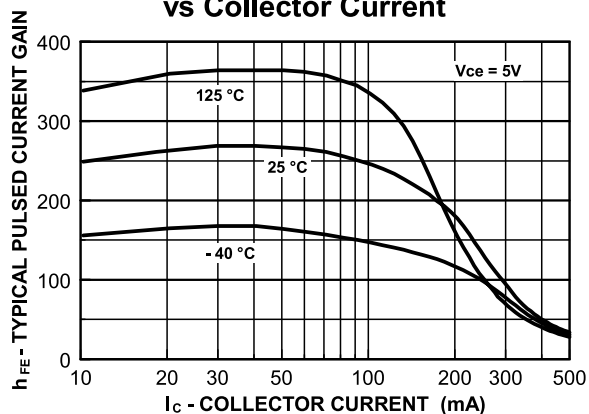
Parameter	Symbol	Test Conditions	Min.	Typ.	Max.	Unit
Collector - Base Breakdown Voltage	$V_{(BR)CBO}$	$I_C=100\mu\text{A}, I_E=0$	50			V
Collector - Emitter Breakdown Voltage	$V_{(BR)CEO}$	$I_C=1\text{mA}, I_B=0$	45			
Emmitter - Base Breakdown Voltage	$V_{(BR)EBO}$	$I_E=100\mu\text{A}, I_C=0$	5			
Collector Cut-Off Current	I_{CBO}	$V_{CB}=20\text{V}, I_E=0$			100	nA
Emitter Cut-Off Current	I_{EBO}	$V_{EB}=5\text{V}, I_C=0$			100	
DC Current Gain BCW71 BCW72 BCW71 BCW72	h_{FE}	$V_{CE}=5\text{V}, I_C=10\mu\text{A}$		90 150		
		$V_{CE}=5\text{V}, I_C=2\text{mA}$	110 200		220 450	
Collector - Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C=10\text{mA}, I_B=0.5\text{mA}$ $I_C=50\text{mA}, I_B=2.5\text{mA}$		0.12 0.21	0.25	V
Base - Emitter Saturation Voltage	$V_{BE(sat)}$	$I_C=10\text{mA}, I_B=0.5\text{mA}$ $I_C=50\text{mA}, I_B=2.5\text{mA}$		0.75 0.85		
Base Emitter Voltage	V_{BE}	$I_C=2\text{mA}, V_{CE}=5\text{V}$	0.55		0.7	
Transition Frequency	f_T	$V_{CE}=5\text{V}, I_C=10\text{mA},$ $f=100\text{MHz}$	100			MHz
Collector Capacitance	C_C	$I_E=I_e=0, V_{CB}=10\text{V}, f=1\text{MHz}$		2.5		pF
Noise Figure	NF	$V_{CE}=5\text{V}, I_C=200\mu\text{A}, R_S=2\text{k}\Omega$ $f=1\text{kHz}, B=200\text{Hz}$			10	dB

NPN General Purpose Amplifier

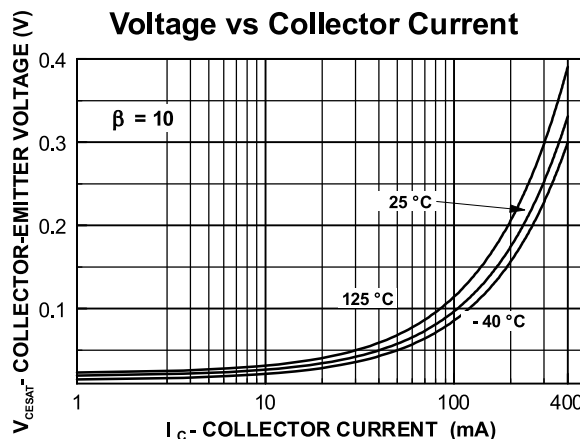
Typical Characteristics: ($T_a = 25^\circ\text{C}$ unless otherwise noted)

Ratings & Characteristic Curves

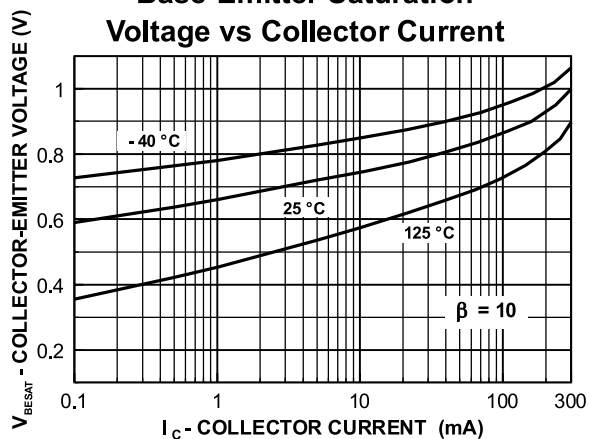
Typical Pulsed Current Gain
vs Collector Current



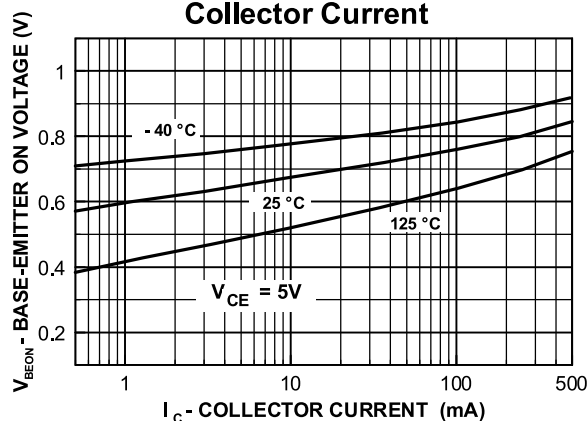
Collector-Emitter Saturation
Voltage vs Collector Current



Base-Emitter Saturation
Voltage vs Collector Current



Base-Emitter ON Voltage vs
Collector Current

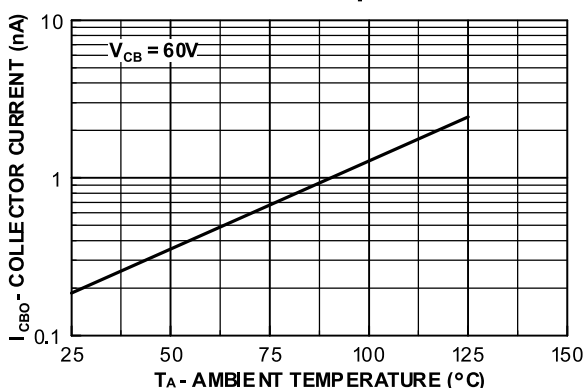


NPN General Purpose Amplifier

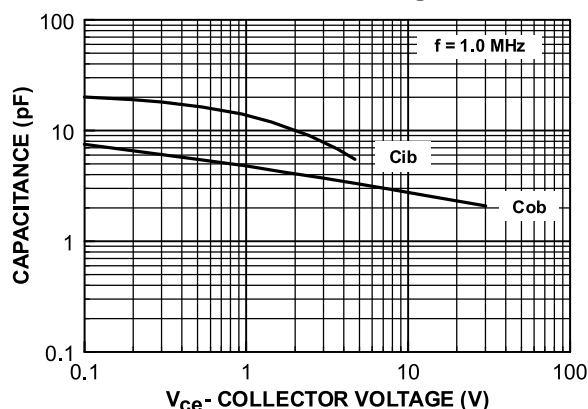
Typical Characteristics: ($T_a = 25^\circ\text{C}$ unless otherwise noted)

Ratings & Characteristic Curves

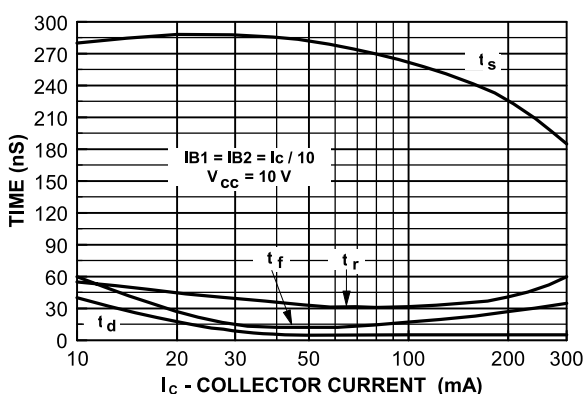
**Collector-Cutoff Current
vs Ambient Temperature**



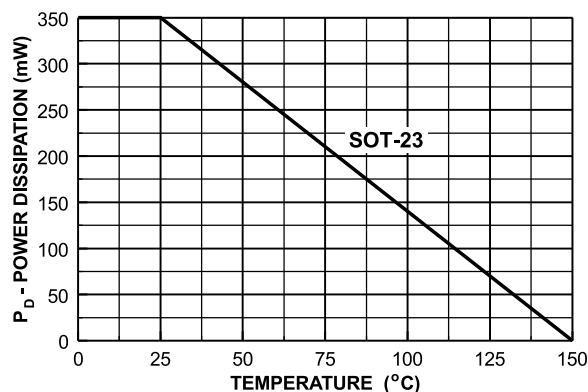
**Input and Output Capacitance
vs Reverse Voltage**



**Switching Times vs
Collector Current**



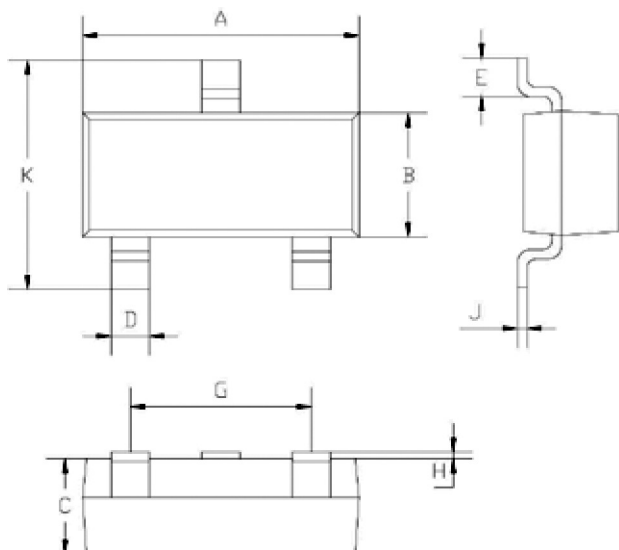
**Power Dissipation vs
Ambient Temperature**



NPN General Purpose Amplifier

Package Outline

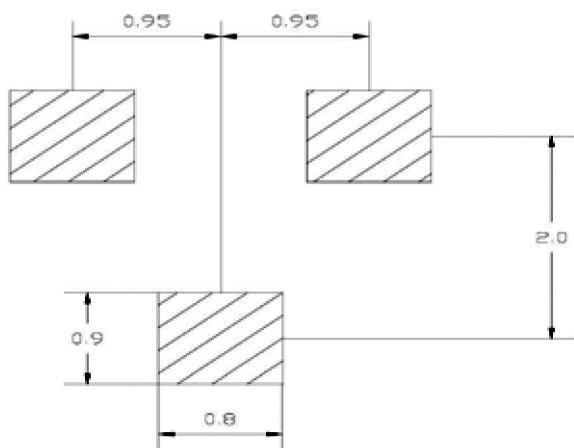
Plastic surface mounted package



Dimensions	Min.	Max.
A	2.85	2.95
B	1.25	1.35
C	1 Typical	
D	0.4 Typical	
E	0.35	0.48
G	1.85	1.95
H	0.02	0.1
J	0.1 Typical	
K	2.35	2.45

Dimensions : Millimetres

Soldering Footprint



Dimensions : Millimetres

Part Number Table

Description	Part Number
Transistor, NPN, 0.1A, 45V, SOT23	BCW71
Transistor, NPN, 0.1A, 45V, SOT23	BCW72

Important Notice : This data sheet and its contents (the "Information") belong to the members of the Premier Farnell group of companies (the "Group") or are licensed to it. No licence is granted for the use of it other than for information purposes in connection with the products to which it relates. No licence of any intellectual property rights is granted. The Information is subject to change without notice and replaces all data sheets previously supplied. The Information supplied is believed to be accurate but the Group assumes no responsibility for its accuracy or completeness, any error in or omission from it or for any use made of it. Users of this data sheet should check for themselves the Information and the suitability of the products for their purpose and not make any assumptions based on information included or omitted. Liability for loss or damage resulting from any reliance on the Information or use of it (including liability resulting from negligence or where the Group was aware of the possibility of such loss or damage arising) is excluded. This will not operate to limit or restrict the Group's liability for death or personal injury resulting from its negligence. Multicomp is the registered trademark of the Group. © Premier Farnell plc 2012.