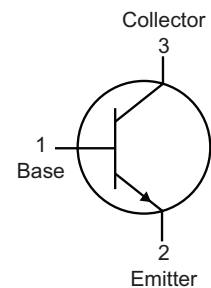
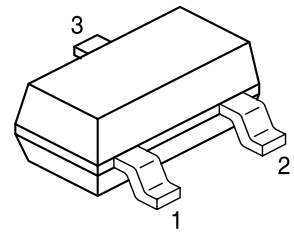


NPN General Purpose Amplifier **multicomp** PRO



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 **multicomp** PRO

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

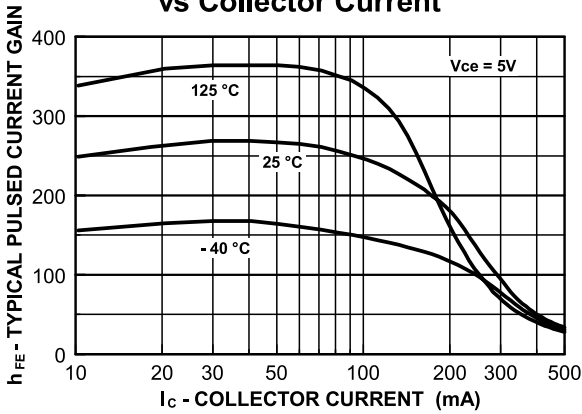
Parameter	Symbol	Test Conditions	Min.	Typ.	Max.	Unit
Collector - Base Breakdown Voltage	$V_{(BR)CBO}$	$I_C=100\mu\text{A}, I_E=0$	50			V
Collector - Emitter Breakdown Voltage	$V_{(BR)CEO}$	$I_C=1\text{mA}, I_B=0$	45			
Emmitter - Base Breakdown Voltage	$V_{(BR)EBO}$	$I_E=100\mu\text{A}, I_C=0$	5			
Collector 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}		90 150		
		$V_{CE}=5\text{V}, I_C=10\mu\text{A}$ $V_{CE}=5\text{V}, I_C=2\text{mA}$	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 **multicomp** PRO

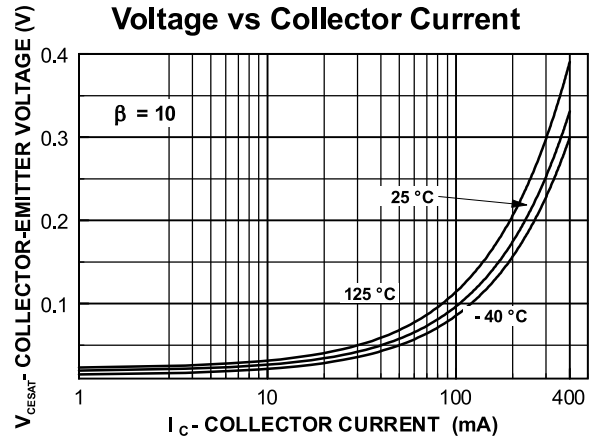
Typical Characteristics: ($T_a = 25^\circ\text{C}$ unless otherwise noted)

Ratings & Characteristic Curves

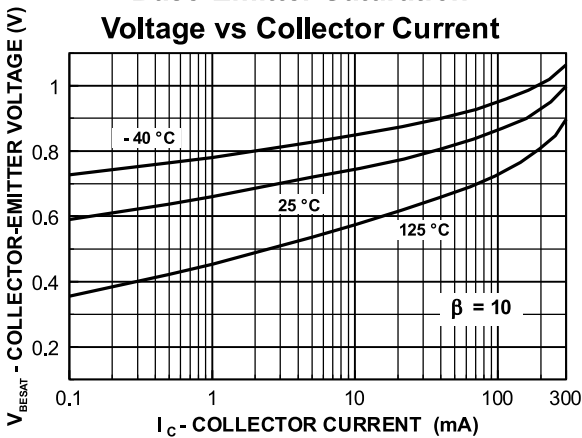
Typical Pulsed Current Gain vs Collector Current



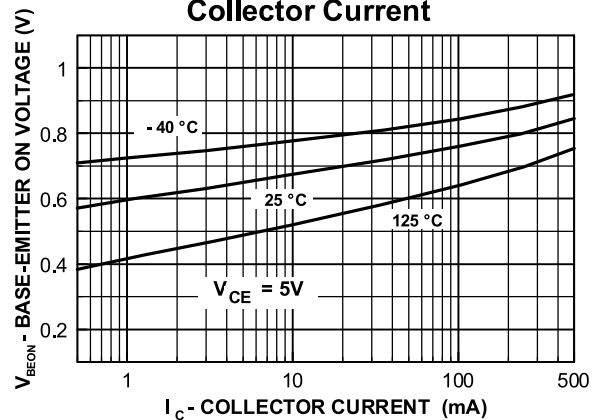
Collector-Emitter Saturation Voltage vs Collector Current



Base-Emitter Saturation Voltage vs Collector Current



Base-Emitter ON Voltage vs Collector Current

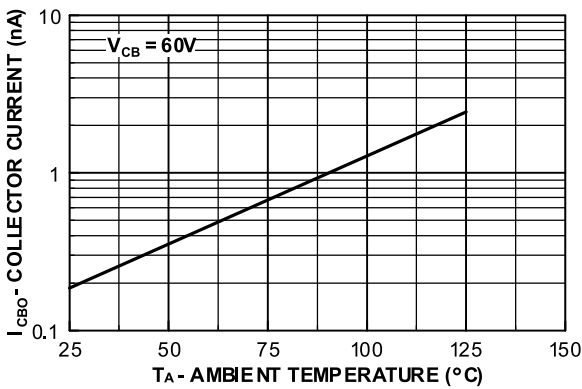


NPN General Purpose Amplifier **multicomp**PRO

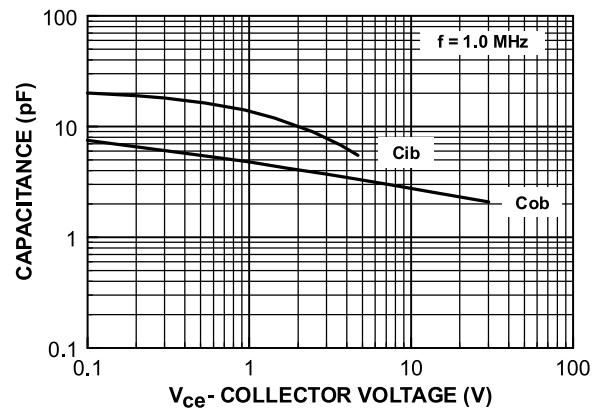
Typical Characteristics: ($T_a = 25^\circ\text{C}$ unless otherwise noted)

Ratings & Characteristic Curves

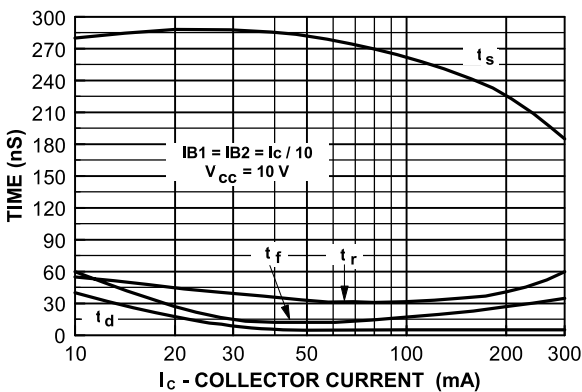
Collector-Cutoff Current vs Ambient Temperature



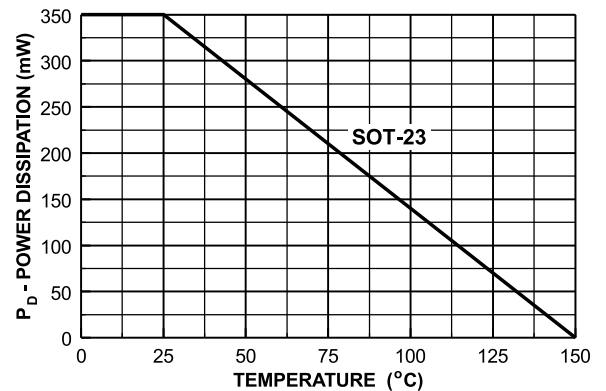
Input and Output Capacitance vs Reverse Voltage



Switching Times vs Collector Current



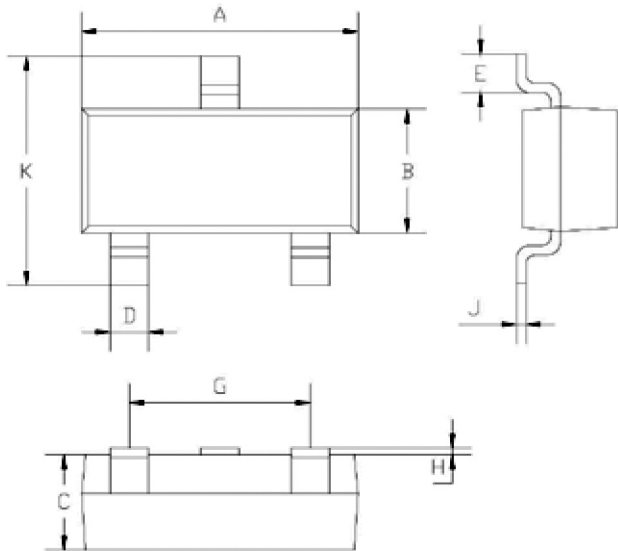
Power Dissipation vs Ambient Temperature



NPN General Purpose Amplifier **multicomp**PRO

Package Outline

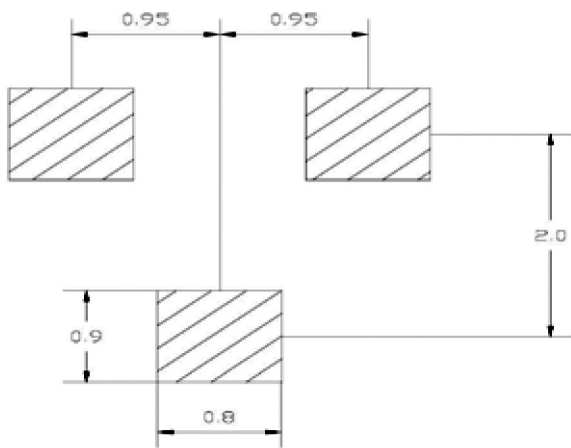
Plastic surface mounted package



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

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