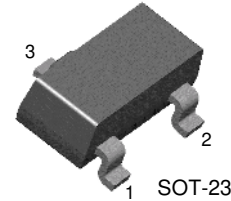


BCW60A/B/C/D

General Purpose Transistor



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

NPN Epitaxial Silicon Transistor

Absolute Maximum Ratings $T_a=25^\circ\text{C}$ unless otherwise noted

Symbol	Parameter	Value	Units
V_{CBO}	Collector-Base Voltage	32	V
V_{CEO}	Collector-Emitter Voltage	32	V
V_{EBO}	Emitter-Base Voltage	5	V
I_C	Collector Current	100	mA
P_C	Collector Power Dissipation	350	mW
T_{STG}	Storage Temperature	150	$^\circ\text{C}$

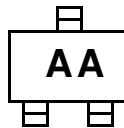
Electrical Characteristics $T_a=25^\circ\text{C}$ unless otherwise noted

Symbol	Parameter	Test Condition	Min.	Max.	Units
BV_{CEO}	Collector-Emitter Breakdown Voltage	$I_C=2\text{mA}, I_B=0$	32		V
BV_{EBO}	Emitter-Base Breakdown Voltage	$I_E=1\mu\text{A}, I_C=0$	5		V
I_{CES}	Collector Cut-off Current	$V_{CE}=32\text{V}, V_{BE}=0$		20	nA
I_{EBO}	Emitter Cut-off Current	$V_{EB}=4\text{V}, I_C=0$		20	nA
h_{FE}	DC Current Gain				
	: BCW60B	$V_{CE}=5\text{V}, I_C=10\mu\text{A}$	20		
	: BCW60C		40		
	: BCW60D		100		
	: BCW60A	$V_{CE}=5\text{V}, I_C=2\text{mA}$	120	220	
	: BCW60B		180	310	
	: BCW60C		250	460	
	: BCW60D		380	630	
	: BCW60A	$V_{CE}=1\text{V}, I_C=50\text{mA}$	60		
	: BCW60B		70		
	: BCW60C		90		
	: BCW60D		100		
$V_{CE(sat)}$	Collector-Emitter Saturation Voltage	$I_C=50\text{mA}, I_B=1.25\text{mA}$ $I_C=10\text{mA}, I_B=0.25\text{mA}$		0.55 0.35	V V
$V_{BE(sat)}$	Base-Emitter Saturation Voltage	$I_C=50\text{mA}, I_B=1.25\text{mA}$ $I_C=10\text{mA}, I_B=0.25\text{mA}$	0.7 0.6	1.05 0.85	V V
$V_{BE(on)}$	Base-Emitter On Voltage	$V_{CE}=5\text{V}, I_C=2\text{mA}$	0.55	0.75	V
C_{ob}	Output Capacitance	$V_{CB}=10\text{V}, I_E=0, f=1\text{MHz}$		4.5	pF
f_T	Current Gain Bandwidth Product	$I_C=10\text{mA}, V_{CE}=5\text{V}, f=100\text{MHz}$	125		MHz
NF	Noise Figure	$I_C=0.2\text{mA}, V_{CE}=5\text{V}$ $R_G=2\text{K}\Omega, f=1\text{KHz}$		6	dB
t_{ON}	Turn On Time	$I_C=10\text{mA}, I_{B1}=1\text{mA}$		150	ns
t_{OFF}	Turn Off Time	$V_{BB}=3.6\text{V}, I_{B2}=1\text{mA}$ $R1=R2=5\text{K}\Omega, R_L=990\Omega$		800	ns

Marking Code

Type	BCW60A	BCW60B	BCW60C	BCW60D
Mark.	AA	AB	AC	AD

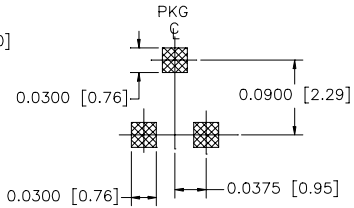
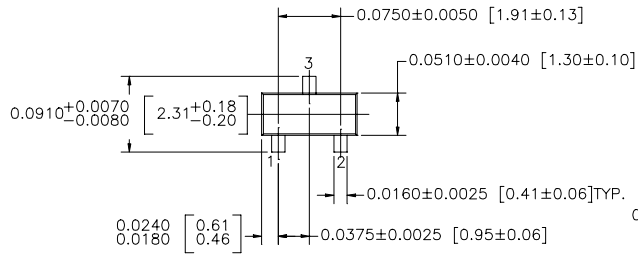
Marking



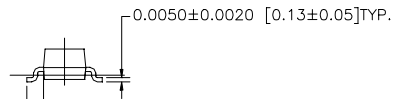
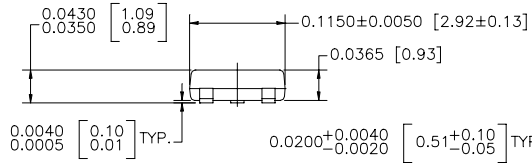
Package Dimensions

BCW60A/B/C/D

SOT-23



LAND PATTERN RECOMMENDATION



SOT 23, 3 LEADS LOW PROFILE

CONTROLLING DIMENSION IS INCH
VALUES IN [] ARE MILLIMETERS

NOTE : UNLESS OTHERWISE SPECIFIED

1. STANDARD LEAD FINISH 150 MICROINCHES / 3.81 MICROMETERS
MINIMUM TIN / LEAD (SOLDER) ON ALLOY 42
2. REFERENCE JEDEC REGISTRATION TO-236, VARIATION AB, ISSUE G, DATED JUL 1993

Dimensions in Millimeters

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CoolFET TM	FAST ^r TM	MicroFET TM	PowerTrench [®]	SuperSOT TM -6
CROSSVOL TM	FRFET TM	MicroPak TM	QFET TM	SuperSOT TM -8
DOME TM	GlobalOptoisolator TM	MICROWIRE TM	QS TM	SyncFET TM
EcoSPARK TM	GTO TM	MSX TM	QT Optoelectronics TM	TinyLogic TM
E ² CMOS TM	HiSeC TM	MSXPro TM	Quiet Series TM	TruTranslation TM
EnSigna TM	I ² C TM	OCX TM	RapidConfigure TM	UHC TM
Across the board. Around the world. TM		OCXPro TM	RapidConnect TM	UltraFET [®]
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Programmable Active Droop TM		OPTOPLANAR TM	SMART START TM	

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2. A critical component is any component of a life support device or system whose failure to perform can be reasonably expected to cause the failure of the life support device or system, or to affect its safety or effectiveness.

PRODUCT STATUS DEFINITIONS

Definition of Terms

Datasheet Identification	Product Status	Definition
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