

NPN BSS60A-61A-62A

SILICON PLANAR EPITAXIAL TRANSISTORS

They are PNP transistors mounted in TO-39 metal package.
They are designed for use in industrial switching applications e.g. print hammer, solenoid, relay and lamp driving .

NPN complements are the BSS50A – 51A – 52A .

Compliance to RoHS.

ABSOLUTE MAXIMUM RATINGS

Symbol	Ratings		Value	Unit	
V_{CBO}	Collector-Base Voltage	BSS60A	60	V	
		BSS61A	80		
		BSS62A	90		
V_{CES}	Collector-Emitter Voltage $V_{BE} = 0$	BSS60A	45	V	
		BSS61A	60		
		BSS62A	80		
V_{EBO}	Emitter-Base Voltage	BSS60A	5	V	
		BSS61A			
		BSS62A			
I_C	Collector Current	I_C	BSS60A	1	A
			BSS61A		
			BSS62A		
		I_{CM}	BSS60A	2	
			BSS61A		
			BSS62A		
I_B	Base Current	BSS60A	0.1	A	
		BSS61A			
		BSS62A			
P_{tot}		@ $T_{case} = 25^\circ$	5	Watts	
		@ $T_{amb} = 25^\circ$	0.8		
T_J	Junction Temperature		200	$^\circ C$	
T_{Stg}	Storage Temperature range		-65 to +150	$^\circ C$	

THERMAL CHARACTERISTICS

Symbol	Ratings	Value	Unit
R_{thJ-c}	Thermal Resistance, Junction-case	35	K/ W
$R_{thJ-amb}$	Thermal Resistance, Junction-ambient	220	K/ W

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ELECTRICAL CHARACTERISTICS

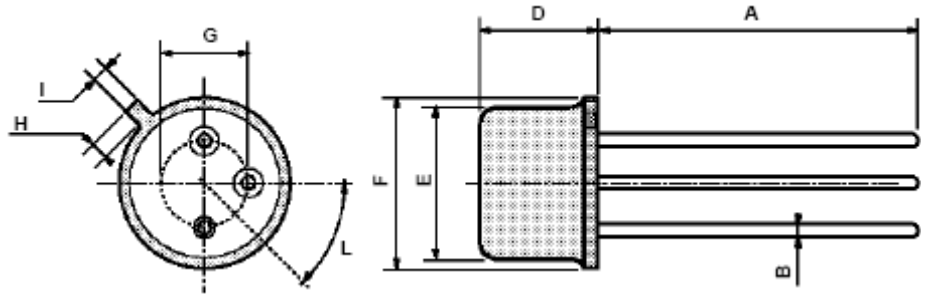
TC=25°C unless otherwise noted

Symbol	Ratings	Test Condition(s)	Min	Typ	Mx	Unit	
$-I_{CBO}$	Collector Cutoff Current	$I_E = 0 ; -V_{CB} = 45V$	BSS60A	-	-	50	nA
		$I_E = 0 ; -V_{CB} = 60V$	BSS61A				
		$I_E = 0 ; -V_{CB} = 80V$	BSS62A				
$-I_{EBO}$	Emitter Cutoff Current	$I_C = 0 ; -V_{EB} = 4 V$	BSS60A	-	-	700	μA
			BSS61A				
			BSS62A				
$-V_{CE(SAT)}$	Collector-Emitter saturation Voltage	$-I_C = 500 \text{ mA} , -I_B = 0.5 \text{ mA}$		-	-	1.3	V
		$-I_C = 500 \text{ mA} , -I_B = 0.5 \text{ mA} , T_j = 200^\circ C$		-	-	1.3	
		$-I_C = 1 \text{ A} , -I_B = 1 \text{ mA}$	BSS61A	-	-	1.6	
		$-I_C = 1 \text{ A} , -I_B = 1 \text{ mA} , T_j = 200^\circ C$		-	-	1.6	
		$-I_C = 1 \text{ A} , -I_B = 4 \text{ mA}$	BSS60A	-	-	1.6	
		$-I_C = 1 \text{ A} , -I_B = 4 \text{ mA} , T_j = 200^\circ C$	BSS62A	-	-	1.6	
$-V_{BE(SAT)}$	Base-Emitter saturation Voltage	$-I_C = 500 \text{ mA} , -I_B = 0.5 \text{ mA}$		-	-	1.9	
		$-I_C = 1 \text{ A} , -I_B = 1 \text{ mA}$	BSS61A	-	-	2.2	
		$-I_C = 1 \text{ A} , -I_B = 4 \text{ mA}$	BSS60A BSS62A	-	-	2.2	
h_{FE}	DC Current Gain	$-I_C = 150 \text{ mA} , -V_{CE} = 10 \text{ V}$	BSS60A	800	-	-	
			BSS61A				
			BSS62A				
		$-I_C = 500 \text{ mA} , -V_{CE} = 10 \text{ V}$	BSS60A	2000	-	-	
			BSS61A				
			BSS62A				
h_{fe}	Small Signal Current Gain	$-I_C = 500 \text{ mA} , -V_{CE} = 5 \text{ V}$ $f = 35 \text{ MHz}$	BSS60A	-	10	-	-
			BSS61A				
			BSS62A				
t_{on}	Switching times	$-I_{Con} = 500 \text{ mA}$ $-I_{B1} = I_{B2} = 0.5 \text{ mA}$		-	0.4	-	μs
t_{off}				-	1.5	-	
t_{on}	Switching times	$-I_{Con} = 1 \text{ mA}$ $-I_{B1} = I_{B2} = 1 \text{ mA}$		-	0.4	-	μs
t_{off}				-	1.5	-	

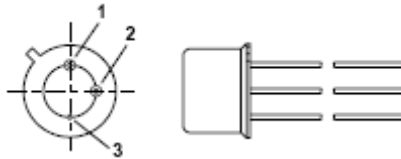
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MECHANICAL DATA CASE TO-39

DIMENSIONS (mm)			
	min	typ	max
A	12.7	-	-
B	-	-	0.49
D	-	-	6.6
E	-	-	8.5
F	-	-	9.4
G	5.08	-	-
H	-	-	1.2
I	-	-	0.9
L	45°	-	-



Pin 1 :	Emitter
Pin 2 :	Base
Case :	Collector



Information furnished is believed to be accurate and reliable. However, CS assumes no responsibility for the consequences of use of such information nor for errors that could appear.

Data are subject to change without notice.