BSW66A
BSW67A
BSW68A

CASE 79, STYLE 1
TO-39 (TO-205AD)

TRANSISTOR

NPN SILICON

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MAXIMUM RATINGS

Rating	Symbol	BSW 66A	BSW 67A	BSW 68A	Unit
Collector-Emitter Voltage	V_{CEO}	100	120	150	Vdc
Collector-Base Voltage	V_{CBO}	100	120	150	Vdc
Emitter-Base Voltage	V_{EBO}	6.0			Vdc
Collector Current – Continuous	I_C	2.0			Amp
Total Device Dissipation @ T_A = 25°C Derate above 25°C	P_D	0.8 4.57			Watt mW/°C
Total Device Dissipation @ T_C = 25°C Derate above 25°C	P_D	5.0 28.6			Watt mW/°C
Operating and Storage Junction Temperature Range	T_J, T_{stg}	−65 to +200			°C

THERMAL CHARACTERISTICS

Characteristic	Symbol	Max	Unit
Thermal Resistance, Junction to Case	$R_{\theta JC}$	35	°C/W
Thermal Resistance, Junction to Ambient	$R_{\theta JA}$	220	°C/W

ELECTRICAL CHARACTERISTICS (T_A = 25°C unless otherwise noted.)

Characteristic		Symbol	Min	Max	Unit
OFF CHARACTERISTICS					
Collector-Emitter Breakdown Voltage (I_C = 10 mAdc, I_B = 0)	BSW66A BSW67A BSW68A	$V_{(BR)CEO}$	 100 120 150		Vdc
Collector-Base Breakdown Voltage (I_C = 100 μAdc)	BSW66A BSW67A BSW68A	$V_{(BR)CBO}$	 100 120 150		Vdc
Collector-Base Cutoff Current (V_{CB} = 50 V, I_E = 0) (V_{CB} = 60 V, I_E = 0) (V_{CB} = 75 V, I_E = 0) (V_{CB} = 50 V, I_E = 0, T_j = 150°C) (V_{CB} = 60 V, I_E = 0, T_j = 150°C) (V_{CB} = 75 V, I_E = 0, T_j = 150°C)	 BSW66A BSW67A BSW68A BSW66A BSW67A BSW68A	I_{CBO}		 100 100 100 100 100 100	nAdc μAdc
Emitter-Base Cutoff Current (V_{EB} = 3 V, I_C = 0) (V_{EB} = 6 V, I_C = 0)		I_{EBO}		 100 100	 nAdc μAdc
ON CHARACTERISTICS					
DC Current Gain (I_C = 10 mA, V_{CE} = 5 V) (I_C = 100 mA, V_{CE} = 5 V) (I_C = 500 mA, V_{CE} = 5 V) (I_C = 1.0 A, V_{CE} = 5 V)		h_{FE}	 30 40 30 15		
Collector-Emitter Saturation Voltage (I_C = 100 mA, I_B = 10 mA) (I_C = 500 mA, I_B = 50 mA) (I_C = 1.0 A, I_B = 150 mA)		$V_{CE(sat)}$		 0.15 0.40 1.0	Vdc
Emitter-Base Saturation Voltage (I_C = 100 mA, I_B = 10 mA) (I_C = 500 mA, I_B = 50 mA) (I_C = 1.0 A, I_B = 150 mA)		$V_{BE(sat)}$		 0.9 1.1 1.4	Vdc
SMALL SIGNAL CHARACTERISTICS					
Current Gain Bandwidth Product (I_C = 100 mA, V_{CE} = 20 V, f = 35 MHz)		f_t	50		MHz
Output Capacitance (V_{CB} = 10 V, I_E = 0, f = 1 MHz)		C_{obo}		20	pF
Input Capacitance (V_{EB} = 0, I_C = 0, f = 1 MHz)		C_{ibo}		300	pF