

2N6211-2N6213

PNP SILICON HIGH POWER TRANSISTORS

FEATURES

-) Available as "HR" (high reliability) screened per MIL-PRF-19500, JANTX level. Add "HR" suffix to base part number.
-) Available as non-RoHS (Sn/Pb plating), standard, and as RoHS by adding "-PBF" suffix.

MAXIMUM RATINGS

Rating	Symbol	2N6211	2N6212	2N6213	Unit	
Collector-Emitter Voltage	V_{CE}	225	300	350	Vdc	
Collector-Base Voltage	V_{CB}	275	350	400	Vdc	
Emitter-Base Voltage	V_{EB}	6.0			Vdc	
Collector Current	I_C	2.0			Adc	
Base Current	I_B	1.0			Adc	
Total Power Dissipation	P_D	$T_A = 25^\circ\text{C}^{(1)}$			3.0	Watts
		$T_C = 25^\circ\text{C}^{(2)}$			35	W/°C
Operating Junction and Storage Temperature Range	T_J, T_{stg}	-55 to 200			°C	
Thermal Resistance Junction-to-Case	$R_{\theta JC}$	5.0			°C/W	

1. Derate linearly 17.1 mW/°C for $T_A > 25^\circ\text{C}$
2. Derate linearly 200 mW/°C for $T_C > 25^\circ\text{C}$

ELECTRICAL CHARACTERISTICS ($T_A = 25^\circ\text{C}$ unless otherwise specified)

Characteristics	Symbol	Min	Max	Unit
OFF CHARACTERISTICS				
Collector-Emitter Breakdown Voltage $I_C = 200 \text{ mAdc}, I_B = 0$	2N6211	225	-	Vdc
	2N6212	300	-	
	2N6213	350	-	
Collector-Emitter Breakdown Voltage $I_C = 200 \text{ mAdc}, I_B = 0, R_{BE} = 50 \Omega$	2N6211	250	-	Vdc
	2N6212	325	-	
	2N6213	375	-	
Collector-Emitter Breakdown Voltage $I_C = 200 \text{ mAdc}, I_B = 0, V_{BE} = 1.5\text{V}$	2N6211	275	-	Vdc
	2N6212	350	-	
	2N6213	400	-	
Collector-Emitter Cutoff Current $V_{CE} = 150 \text{ Vdc}$	I_{CEO}	-	5.0	mAdc
Collector-Emitter Cutoff Current $V_{CE} = 250 \text{ Vdc}, V_{BE} = 1.5 \text{ Vdc}$ $V_{CE} = 315 \text{ Vdc}, V_{BE} = 1.5 \text{ Vdc}$ $V_{CE} = 360 \text{ Vdc}, V_{BE} = 1.5 \text{ Vdc}$	2N6211	-	0.5	mAdc
	2N6212	-	0.5	
	2N6213	-	0.5	
Collector-Base Cutoff Current $V_{CB} = 275 \text{ Vdc}, I_B = 0$ $V_{CB} = 350 \text{ Vdc}, I_B = 0$ $V_{CB} = 400 \text{ Vdc}, I_B = 0$	2N6211	-	15	mAdc
	2N6212	-	15	
	2N6213	-	15	
Emitter cutoff current $V_{BE} = 6.0\text{Vdc}, I_C = 0$	I_{EBO}	-	0.5	mAdc

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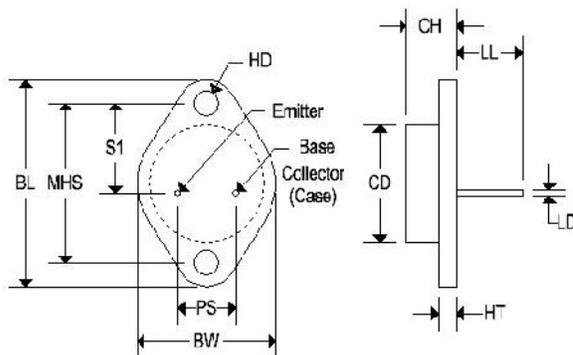
ELECTRICAL CHARACTERISTICS ($T_A = 25^\circ\text{C}$ unless otherwise specified)

Characteristics	Symbol	Min	Max	Unit
ON CHARACTERISTICS⁽³⁾				
DC Current Gain $V_{CE} = 2.8 \text{ Vdc}, I_C = 1.0 \text{ Adc}$	2N6211	10	100	-
$V_{CE} = 3.2 \text{ Vdc}, I_C = 1.0 \text{ Adc}$	2N6212	10	100	-
$V_{CE} = 4.0 \text{ Vdc}, I_C = 1.0 \text{ Adc}$	2N6213	10	100	-
DC Current Gain $V_{CE} = 5.0 \text{ Vdc}, I_C = 1.0 \text{ Adc}$	2N6211	30	175	-
	2N6212	30	175	-
	2N6213	30	150	-
Collector-Emitter Saturation Voltage $I_C = 1.0 \text{ Adc}, I_B = 0.125 \text{ Adc}$	2N6211	-	1.4	Vdc
	2N6212	-	1.6	
	2N6213	-	2.0	
Base-Emitter Saturation Voltage $I_C = 1.0 \text{ Adc}, I_B = 0.125 \text{ Adc}$		-	1.4	Vdc
DYNAMIC CHARACTERISTICS				
Magnitude of Common Emitter Small-Signal Short-Circuit Forward Current Transfer Ratio $I_C = 0.2 \text{ Adc}, V_{CE} = 10 \text{ Vdc}, f = 5.0 \text{ MHz}$	$ h_{fe} $	4.0	20	-
Output Capacitance $V_{CB} = 10 \text{ Vdc}, I_E = 0 \text{ A}, f = 1 \text{ MHz}$	C_{obo}	-	220	pF
SWITCHING CHARACTERISTICS				
Turn-On Time $V_{CC} = 200 \text{ Vdc}, I_C = 1.0 \text{ Adc}, I_{B1} = 0.125 \text{ Adc}$	t_{on}	-	0.6	μs
Turn-Off Time $V_{CC} = 200 \text{ Vdc}, I_C = 1.0 \text{ Adc}, I_{B1} = I_{B2} = 0.125 \text{ Adc}$	t_{off}	-	3.1	μs

3. Pulsed Test: Pulse width = 300 μs , Duty Cycle $\leq 2\%$

MECHANICAL CHARACTERISTICS

Case	TO-66
Marking	Alpha-numeric
Polarity	See below



Dim	TO-66			
	Inches		Millimeters	
	Min	Max	Min	Max
BL	1.205	1.280	30.60	32.50
CD	0.445	0.557	11.303	14.148
CH	0.257	0.284	6.540	7.220
LL	0.374	0.413	9.500	10.50
BW	0.680	0.727	17.26	18.46
LD	0.030	0.036	0.760	0.920
HT	0.054	0.065	1.380	1.650
MHS	0.951	0.976	24.16	24.78
S1	0.545	0.614	13.84	15.60
HD	0.131	0.154	3.320	3.920
PS	0.191	0.210	4.860	5.340