

High-reliability discrete products and engineering services since 1977

2N6315-2N6318

COMPLEMENTARY SILICON 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.
- Low collector-emitter saturation voltage
 V_{CE(SAT)} = 1.0 V(max) @ l_c = 4.0 A
- Excellent DC current gain h_{FE} = 20 (min) @ l_C = 2.5 A
- Low leakage current I_{CEX} = 250 μ A (max)

MAXIMUM RATINGS

Characteristic	Symbol	2N6315 2N6317	2N6316 2N6318	Unit
Collector-Emitter Voltage	V _{CEO}	60	80	V
Collector-Base Voltage	V _{CBO}	60	80	V
Emitter-Base Voltage	V _{EBO}	5.0		V
Collector Current – Continuous	lc	7.0	1	А
Peak		15		
Base Current	l _Β	2.0	l .	Α
Total Power Dissipation @ T _C = 25°C	P _D	90	90	
Derate above 25°C		0.515 W		W/°C
Operating and Storage Junction Temperature Range	T _J , T _{STG}	-65 to +200 °C		°C
THERMAL CHARACTERISTICS		_		
Thermal Resistance Junction to Case	Rejc	1.94	1	°C/W

ELECTRICAL CHARACTERISTICS (Tc = 25°C UNLESS OTHERWISE NOTED)

Characteristic		Symbol	Min	Max	Unit
OFF CHARACTERISTICS					
Collector-Emitter Sustaining Voltage(1)	2N6315, 2N6317	V	60		V
$(I_C = 100 \text{ mA}, I_B = 0)$	2N6316, 2N6318	$V_{CEO(sus)}$	80		V
Collector Cutoff Current					mA
$(V_{CE} = 30 \text{ V}, I_B = 0)$	2N6315, 2N6317	I _{CEO}		0.5	
$(V_{CE} = 40 \text{ V}, I_B = 0)$	2N6316, 2N6318			0.5	
Collector Cutoff Current					mA
$(V_{CE} = 60 \text{ V}, V_{BE(off)} = 1.5 \text{ V})$	2N6315, 2N6317			0.25	
$(V_{CE} = 80 \text{ V}, V_{BE(off)} = 1.5 \text{ V})$	2N6316, 2N6318	I _{CEX}		0.25	
$(V_{CE} = 60 \text{ V}, V_{BE(off)} = 1.5 \text{ V}, T_{C} = 150^{\circ}\text{C})$	2N6315, 2N6317			2.0	
$(V_{CE} = 80 \text{ V}, V_{BE(off)} = 1.5 \text{ V}, T_{C} = 150^{\circ}\text{C})$	2N6316, 2N6318			2.0	
Collector Cutoff Current					mA
$(V_{CB} = 60 \text{ V}, I_E = 0)$	2N6315, 2N6317	I _{CBO}		0.25	
$(V_{CB} = 80 \text{ V}, I_{E} = 0)$	2N6316, 2N6318			0.25	
Emitter Cutoff Current				1.0	mA
$(V_{EB} = 5.0 \text{ V}, I_C = 0)$		I _{EBO}	1.0	1.0	



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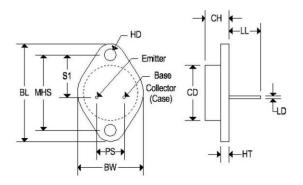
ELECTRICAL CHARACTERISTICS (Tc = 25°C UNLESS OTHERWISE NOTED)

Characteristic	Symbol	Min	Max	Unit
ON CHARACTERISTICS ⁽¹⁾				
DC Current Gain				
$(I_C = 0.5 A, V_{CE} = 4.0 V)$				
$(I_C = 2.5 A, V_{CE} = 4.0 V)$	hFE	20	100	
$(I_C = 7.0 A, V_{CE} = 4.0 V)$		4.0		
Collector-Emitter Saturation Voltage				V
$(I_C = 4.0 \text{ A}, I_B = 0.4 \text{ A})$	$V_{CE(sat)}$		1.0	
$(I_C = 7.0 \text{ A}, I_B = 1.75 \text{ A})$			2.0	
Base-Emitter Saturation Voltage	V			٧
(I _C = 7.0 A, I _B = 1.75 A)	$V_{BE(sat)}$		2.5	
Base-Emitter On Voltage	.,		4.5	٧
$(I_C = 2.5 A, V_{CE} = 4.0 V)$	V _{BE(on)}		1.5	
DYNAMIC CHARACTERISTICS				
Current Gain – Bandwidth Product (2)	f⊤	4.0		MHz
$(I_C = 0.25 \text{ A}, V_{CE} = 10 \text{ V}, f = 1.0 \text{ MHz})$				
Small-Signal Current Gain	h _{fe}	20		
$(I_C = 0.5 \text{ A}, V_{CE} = 4.0 \text{ V}, f = 1.0 \text{ KHz})$				

⁽¹⁾ Pulse Test: Pulse width = 300µs, Duty Cycle ≤ 2.0%

MECHANICAL CHARACTERISTICS

Case: TO-66	
Marking:	Alpha-numeric
Polarity:	See below



	TO-66				
Dim	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	

⁽²⁾ $f_T = |h_{fe}| \, ^{\circ}f_{test}$