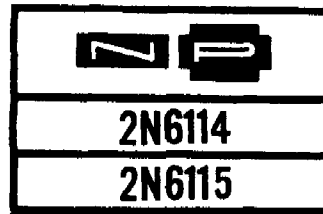


Complementary
Unijunction Transistor



PHONE: (973) 376-2922
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absolute maximum ratings: (25° C free air)

Voltage

Interbase Voltage	30	V
* Emitter - Base 2 Voltage	8.0	V

Current (Note 2)

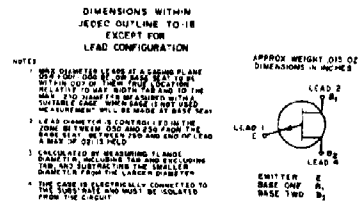
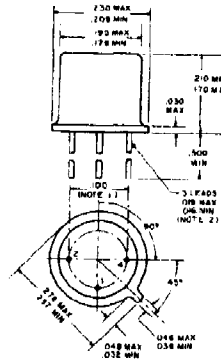
* Average Emitter (Forward)	150	mA
* Peak Emitter (Forward) (Note 1)	2	A
* Peak Reverse Emitter	15	mA

Power

* Average Total (Note 2)	300	mW
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Temperature

Operating	-55 to +150	°C
* Storage	-55 to +200	°C



electrical characteristics: (25° C free air)

		Min.	Typ.	Max.	
* Intrinsic Standoff Ratio (Note 3)	η	0.58	0.60	0.62	
* Peak Point Voltage					
($V_{BB} = 5V$)	V_P	3.2	3.45	3.7	Volts
($V_{BB} = 10V$)	V_P	6.1	6.45	6.8	Volts
* Interbase Resistance					
($I_{BB} = 0.1mA$)	2N6114 R_{BB0}	5.5	6.8	8.2	kohms
* Emitter Breakdown Voltage	2N6115 R_{BB0}	5.0		15	kohms
($I_{EB1} = 10\mu A$)	V_{EB10}	8.0	9.5		Volts
* Peak Point Current					
($V_{BB} = 10V$)	2N6114 I_P			5	μA
* Valley Point Current	2N6115 I_V			15	μA
($V_{BB} = 10V$)	I_V	1	2		mA
Emitter Reverse Current					
($V_{EB1} = 5V$)	2N6114 I_{EB10}		0.1	10	nA
* Emitter Saturation Voltage	2N6115 I_{EB10}			100	nA
($I_E = 50mA, V_{BB} = 10V$)	$V_{E(sat)}$		1.1	1.5	Volts
* Modulated Interbase Current					
($I_E = 50mA, V_{BB} = 10V$)	$I_{B2(mod)}$	1.0	4	10	mA
* Peak Pulse Voltage					
(Note 4)	V_{OUT}	3.5	4.5		Volts
Diode Voltage Drop					
(Note 3)	V_D	.30	.45	.60	Volts
Minimum Charge to Trigger					
($V_{BB} = 10V$)	Q_t		50		pC
Turn-on Time (See Figure 7)	t_{on}			1	$\mu sec.$
Recovery Time (See Figure 7)	t_{rec}			10	$\mu sec.$
Relaxation Oscillator Frequency Shift from 25°C Value (See Figure 1,					
$C = 0.1\mu F, R_{B2} = 950\Omega, V_S = 12.5V$)					
-15°C to +65°C		0.2	0.6	%	
-55°C to +150°C		0.4	1.0	%	

- Notes:
- For capacitor discharge, resistor current limiting is required for capacitors greater than 5 μF and recommended for all cases. (A minimum of 15 ohms is required for good temperature stability.)
 - Derate power and currents linearly to zero at maximum operating temperature.
 - The intrinsic-standoff ratio (η) is essentially constant with temperature and interbase voltage. It and the associated diode drop of peak point voltage are defined by the equations:

$$\eta = \frac{V_{P1} - V_{P2}}{V_{BB1} - V_{BB2}} \quad V_D = V_{P2} - \eta V_{BB2}$$
 Where: $V_{BB1} = 10V \pm .001V$
 $V_{BB2} = 5V \pm .001V$
 - The Base-One Peak Pulse Voltage is measured in the circuit shown in Figure 4. This specification is used to insure a minimum pulse amplitude for applications in SCR firing circuits and other types of firing circuits.

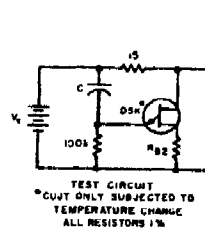


FIGURE 1

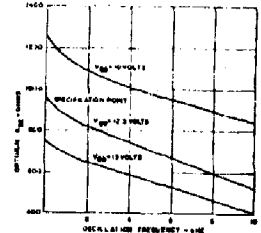
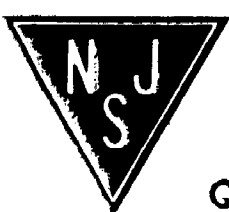


FIGURE 2



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