

DIGITRON SEMICONDUCTORS

2N4851-2N4853

PN UNIJUNCTION TRANSISTORS

MAXIMUM RATINGS

Rating	Symbol	Value	Unit
RMS power dissipation	P_D	300	mW
RMS emitter current	I_e	50	mA
Peak-pulse emitter current	i_e	1.5	Amp
Emitter reverse voltage	V_{B2E}	30	Volts
Interbase voltage	V_{B2B1}	35	Volts
Operating junction temperature range	T_J	-65 to +125	°C
Storage temperature range	T_{stg}	-65 to +200	°C

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

Rating	Part number	Symbol	Min	Typ	Max	Unit
Intrinsic standoff ratio ($V_{B2B1} = 10\text{ V}$)	2N4851 2N4852, 2N4853	η	0.56 0.70	- -	0.75 0.85	-
Interbase resistance ($V_{B2B1} = 3\text{ V}, I_E = 0$)		R_{BB}	4.7	-	9.1	k Ω
Emitter reverse current ($V_{B2E} = 30\text{ V}$)	2N4851, 2N4852 2N4853	I_{EB20}	- -	- -	100 50	nA
Peak point emitter current ($V_{B2B1} = 25\text{ V}$)	2N4851, 2N4852 2N4853	I_P	- -	- -	2 0.4	μA
Valley point current ($V_{B2B1} = 20\text{ V}, R_{B2} = 100\Omega$)	2N4851 2N4852 2N4853	I_V	2.0 4.0 6.0	- - -	- - -	mA
Base one peak pulse voltage ($V_1 = 20\text{V}$)	2N4851 2N4852 2N4853	V_{OB1}	3.0 5.0 6.0	- - -	- - -	Volts
Maximum frequency of oscillation		$f_{(max)}$	-	0.25	-	MHz

FIGURE 1 – UNIJUNCTION TRANSISTOR SYMBOL AND NOMENCLATURE

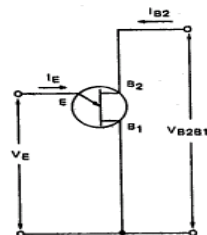
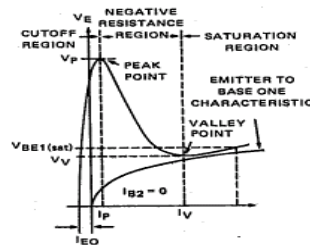


FIGURE 2 – STATIC EMITTER CHARACTERISTICS CURVES



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FIGURE 3 - V_{OB1} TEST CIRCUIT

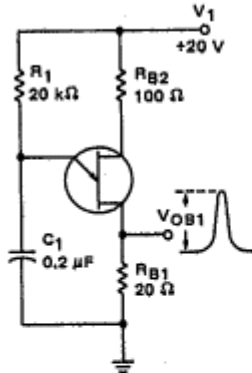


FIGURE 5 - $f_{(max)}$ TEST CIRCUIT

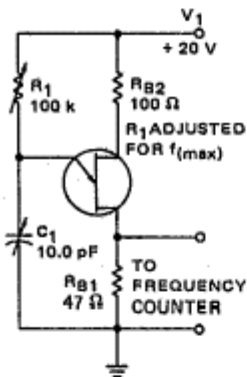


FIGURE 4 - η TEST CIRCUIT

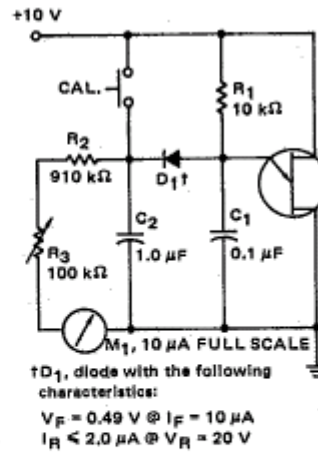
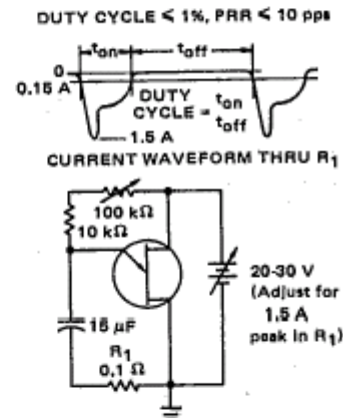


FIGURE 6 - PRR TEST CIRCUIT AND WAVEFORM



TYPICAL CHARACTERISTICS

FIGURE 7 - EMITTER REVERSE CURRENT

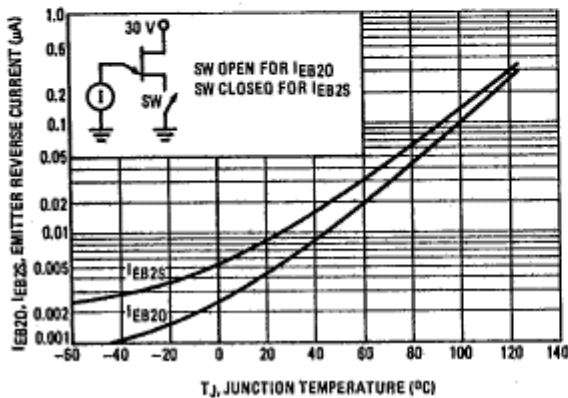
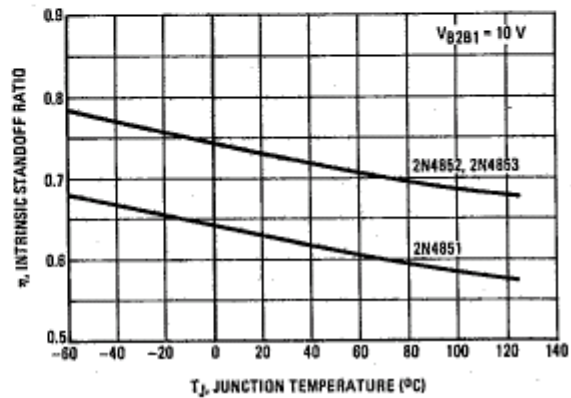


FIGURE 8 - INTRINSIC STANDOFF RATIO

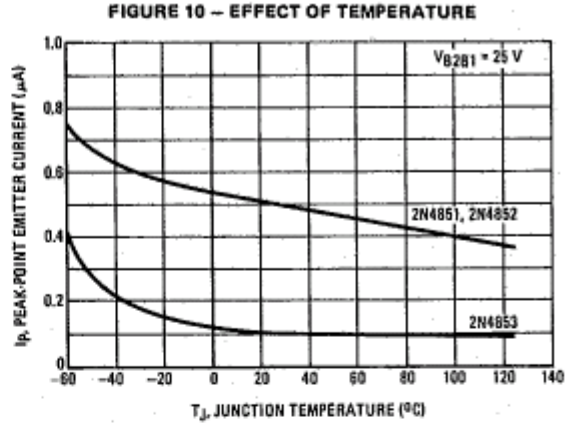
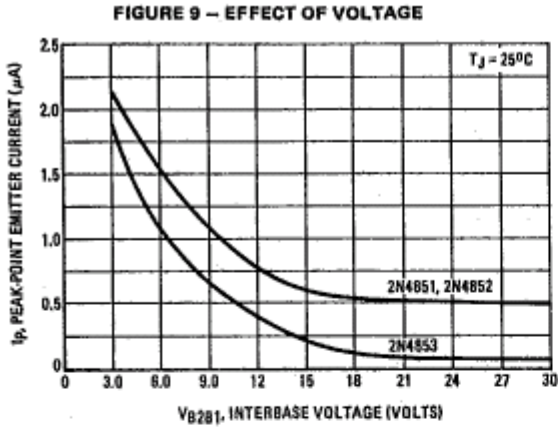


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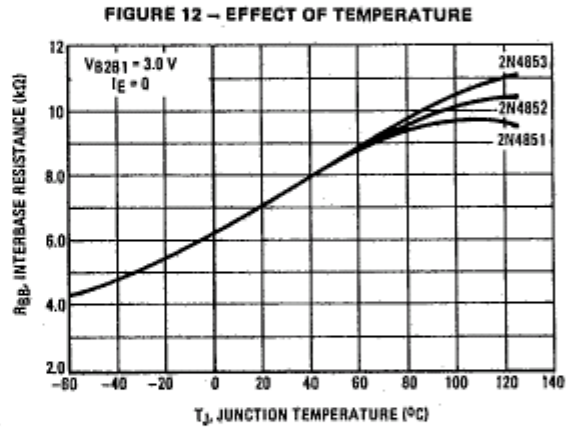
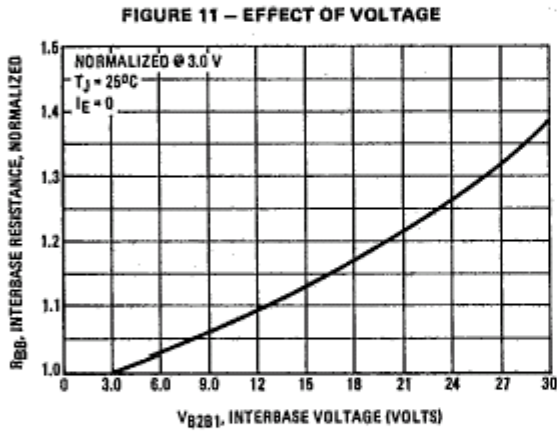
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PEAK POINT CURRENT

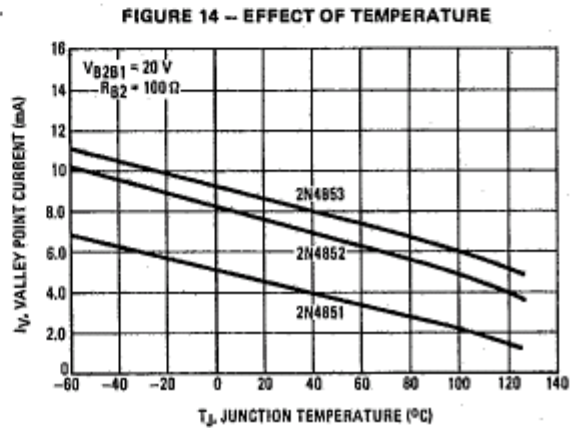
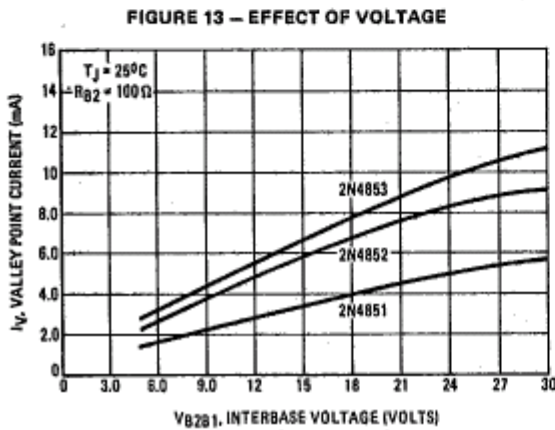


INTERBASE RESISTANCE



TYPICAL CHARACTERISTICS

VALLEY CURRENT



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VALLEY VOLTAGE

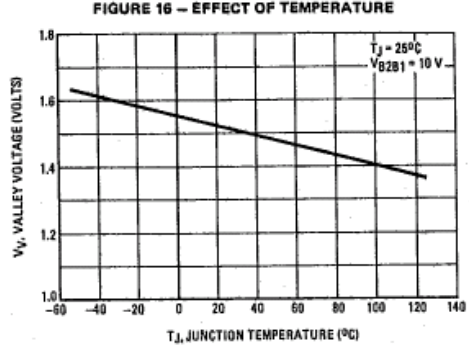
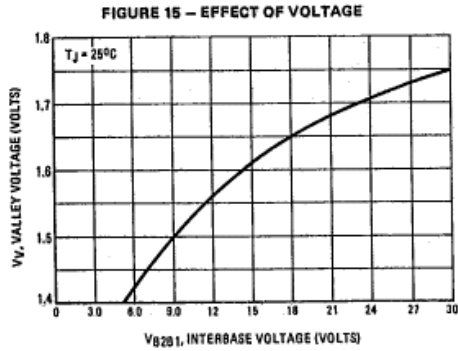
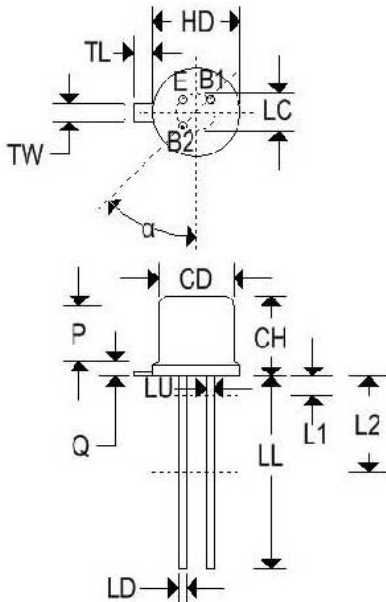
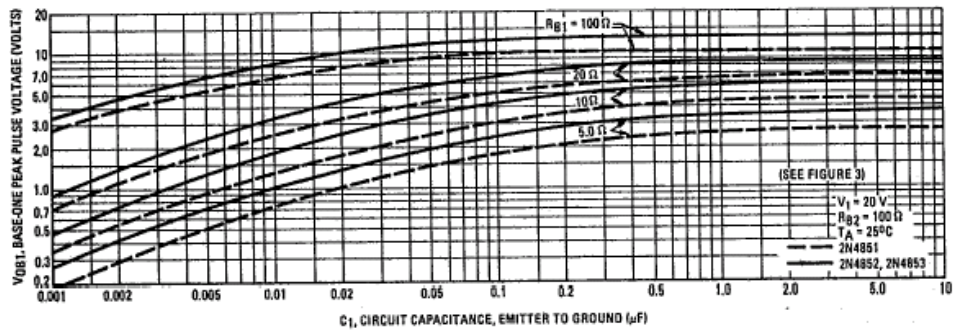


FIGURE 17 – OUTPUT VOLTAGE



Dim	TO-18			
	Inches		Millimeters	
	Min	Max	Min	Max
CD	0.178	0.195	4.520	4.950
CH	0.170	0.210	4.320	5.330
HD	0.209	0.230	5.310	5.840
LC	0.100 TP		2.540 TP	
LD	0.016	0.021	0.410	0.530
LL	0.500	0.750	12.700	19.050
LU	0.016	0.019	0.410	0.480
L1	-	0.050	-	1.270
L2	0.250	-	6.350	-
P	0.100	-	2.540	-
Q	-	0.040	-	1.020
TL	0.028	0.048	0.710	1.220
TW	0.036	0.046	0.910	1.170
α	45° TP		45° TP	

Available Non-RoHS (standard) or RoHS compliant (add PBF suffix).
 Available as "HR" (high reliability) screened per MIL-PRF-19500, JANTX level. Add "HR" suffix to base part number.

144 Market Street
 Kenilworth NJ 07033 USA

phone +1.908.245-7200
 fax +1.908.245-0555

sales@digitroncorp.com
 www.digitroncorp.com