NEW ENGLAND SEMICONDUCTOR

NPN	PNP
2N6282	2N6285*
2N6283*	2N6286*
2N6284*	2N6287*

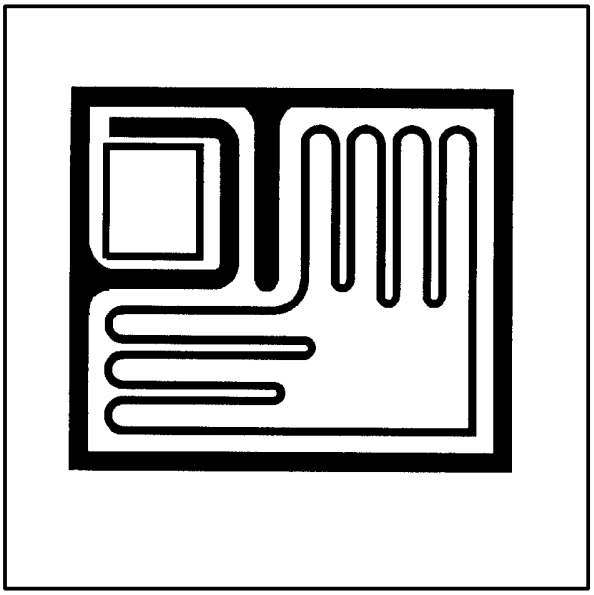
*also available as JAN, JANTX, JANTXV

DARLINGTON COMPLEMENTARY SILICON POWER TRANSISTORS

. . . designed for general-purpose amplifier and low frequency switching applications.

- Collector-Emitter Sustaining Voltage –
  $V_{CEO(sus)}$ = 60 Vdc (Min) – 2N6282, 2N6285
  = 80 Vdc (Min) – 2N6283, 2N6286
  = 100 Vdc (Min) – 2N6284, 2N6287
- High DC Current Gain @ I_C = 10 Adc –
  h_{FE} = 2400 (Typ) – 2N6282, 2N6283, 2N6284
  = 4000 (Typ) – 2N6285, 2N6286, 2N6287
- Monolithic Construction with Built-In Base-Emitter Shunt Resistors

NES 200 X 200 MIL PNP/NPN DARLINGTON CHIP



Base Bonding Pad..... .045 x .029
Emitter Bonding Pad... .041 x .070

* MAXIMUM RATINGS

Rating	Symbol	2N6282 2N6285	2N6283 2N6286	2N6284 2N6287	Unit
Collector-Emitter Voltage	V_{CEO}	60	80	100	Vdc
Collector-Base Voltage	V_{CB}	60	80	100	Vdc
Emitter-Base Voltage	V_{EB}	5.0			Vdc
Collector Current – Continuous Peak	I_C	20 40			Adc
Base Current	I_B	0.5			Adc
Total Device Dissipation @ T_C = 25°C Derate above 25°C	P_D	160 0.915			Watts W/°C
Operating and Storage Junction Temperature Range	T_J,T_{stg}	-65 to +200			°C

*Indicates JEDEC Registered Data.

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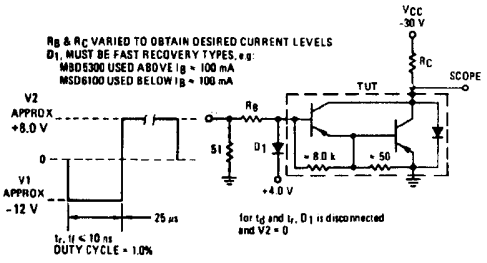
***ELECTRICAL CHARACTERISTICS** (T_C = 25°C unless otherwise noted)

Characteristic		Symbol	Min	Max	Unit
OFF CHARACTERISTICS					
Collector-Emitter Sustaining Voltage		$V_{CEO(sus)}$			Vdc
(I_C = 0.1 Adc, I_B = 0)	2N6282, 2N6285		60	–	
	2N6283, 2N6286		80	–	
	2N6284, 2N6287		100	–	
Collector Cutoff Current		I_{CEO}			mAdc
(V_{CE} = 30 Vdc, I_B = 0)	2N6282, 2N6285		–	1.0	
(V_{CE} = 40 Vdc, I_B = 0)	2N6283, 2N6286		–	1.0	
(V_{CE} = 50 Vdc, I_B = 0)	2N6284, 2N6287		–	1.0	
Collector Cutoff Current		I_{CEX}			mAdc
(V_{CE} = Rated V_{CB}, $V_{BE(off)}$ = 1.5 Vdc)			–	0.5	
(V_{CE} = Rated V_{CB}, $V_{BE(off)}$ = 1.5 Vdc, T_C = 150°C)			–	5.0	
Emitter Cutoff Current		I_{EBO}	–	2.0	mAdc
(V_{BE} = 5.0 Vdc, I_C = 0)					
ON CHARACTERISTICS (1)					
DC Current Gain		h_{FE}			–
(I_C = 10 Adc, V_{CE} = 3.0 Vdc)			750	18,000	
(I_C = 20 Adc, V_{CE} = 3.0 Vdc)			100	–	
Collector-Emitter Saturation Voltage		$V_{CE(sat)}$			Vdc
(I_C = 10 Adc, I_B = 40 mAdc)			–	2.0	
(I_C = 20 Adc, I_B = 200 mAdc)			–	3.0	
Base-Emitter On Voltage		$V_{BE(on)}$	–	2.8	Vdc
(I_C = 10 Adc, V_{CE} = 3.0 Vdc)					
Base-Emitter Saturation Voltage		$V_{BE(sat)}$	–	4.0	Vdc
(I_C = 20 Adc, I_B = 200 mAdc)					
DYNAMIC CHARACTERISTICS					
Magnitude of Common Emitter Small-Signal Short-Circuit Forward Current Transfer Ratio		$\lvert h_{fe} \rvert$	4.0	–	MHz
(I_C = 10 Adc, V_{CE} = 3.0 Vdc, f = 1.0 MHz)					
Output Capacitance		C_{ob}			pF
(V_{CB} = 10 Vdc, I_E = 0, f = 0.1 MHz)	2N6282, 83, 84		–	400	
	2N6285, 86, 87		–	600	
Small-Signal Current Gain		h_{fe}	300	–	–
(I_C = 10 Adc, V_{CE} = 3.0 Vdc, f = 1.0 kHz)					

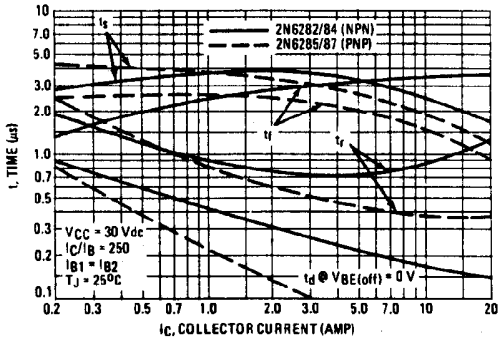
*Indicates JEDEC Registered Data.

(1) Pulse test: Pulse Width = 300 μs, Duty Cycle = 2%

SWITCHING TIMES TEST CIRCUIT



SWITCHING TIMES



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