PNP SILICON DARLINGTON POWER TRANSISTOR

- General Purpose Amplifier
- Low Frequency Switching
- High DC Current Gain
- Monolithic Construction
- Built in Base Emitter Shunt Resistors

20 AMPERE
PNP DARLINGTON
POWER TRANSISTOR

TO-259AA

MAXIMUM RATINGS

Rating	Symbol	NSG2556	Unit
Collector-Emitter Voltage	V_{CEO}	100	Vdc
Collector-Base	V_{CB}	100	Vdc
Emitter-Base Voltage	V_{EB}	5.0	Vdc
Collector Current -- Continuous Peak (1)	I_C	20 40	Adc
Base Current -- Continuous	I_B	0.5	Adc
Total Power Dissipation @$T_C = 25^0C$	P_D	125	Watts
Operating and Storage Junction Temperature Range	T_J, T_{stg}	-65 to +200	^0C

(1) Pulse Test: Pulse Width = 10ms, Duty Cycle ≤ 10%.

MECHANICAL OUTLINE

ELECTRICAL CHARACTERISTICS ($T_C = 25^0C$ unless otherwise noted)

Characteristics	Symbol	Min	Max	Unit
OFF CHARACTERISTICS				
Collector-Emitter Sustaining Voltage $I_C = 0.1$ Adc, $I_b = 0$	$V_{CEO(SUS)}$	100		Vdc
Collector Cutoff Current $V_{CE} = 50$ Vdc, $I_B = 0$ $V_{CE} =$ Rated V_{CB}, V_{bE} off $= 1.5$ Vdc	I_{CEO} I_{CEX}		1.0 0.5	mAdc mAdc
Emitter Cutoff Current $V_{BE} = 5.0$ Vdc, $I_C = 0$	I_{EBO}		2.0	mAdc
ON CHARACTERISTICS (1)				
DC Current Gain $I_C = 10$ Adc, $V_{CE} = 3.0$ Vdc $I_C = 20$ Adc, $V_{CE} = 3.0$ Vdc	h_{FE}	750 100	18,000	
Collector-Emitter Saturation Voltage $I_C = 10$ Adc, $I_B = 40$ mAdc $I_C = 20$ Adc, $I_B = 200$ mAdc	$V_{CE(sat)}$		2.0 3.0	Vdc
Base-Emitter Saturation Voltage $I_C = 20$ Adc, $I_B = 200$ mAdc	$V_{bE(sat)}$		4.0	Vdc
DYNAMIC CHARACTERISTICS				
Forward Current Transfer Ratio $I_C = 10$ Adc, $V_{CE} = 3.0$ Vdc, $f = 1.0$ Mhz	$\mid h_{fe} \mid$	4.0		Mhz
Output Capacitance $V_{CB} = 10$ Vdc, $I_E = 0$, $f = 0.1$ Mhz	C_{Ob}		600	pf

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

Reliability Testing Available on Request

SX LEVEL RELIABILITY TESTING

100% SCREENING	GROUP A	GROUP B (Sample)	GROUP C (Sample)
Internal Visual Temp Cycle Thermal Response Constant Acceleration PIND Fine and Gross Leak HTRB Power Burn In	Visual and Mechanical Dc Static Tests 25^0C DC Static Tests High Temp DC Static Tests Low Temp DynamicTests @ 25^0C	Solderability Temp Cycle Fine and Gross Leak Bond Strength Intermittent Op Life Steady State Op Life Thermal Resistance Hi-Temp Life (non operating)	Physical Dimensions Thermal Shock Terminal Strength Hermetic Seal Moisture Resistance Shock Test Vibration Test Constant Acceleration Salt Atmosphere Operation Life