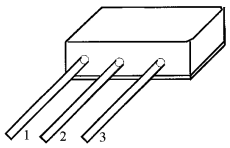
NEW ENGLAND SEMICONDUCTOR

TECHNICAL DATA

NES65
NES65A
NES65B

12 AMPERE NPN POWER DARLINGTON TRANSISTOR



T0-257 MOD

NPN SILICON TRANSISTORS

- MONOLITHIC CONSTRUCTION
- POWER LINEAR AND SWITCHING APPLICATIONS
- HIGH CURRENT GAIN

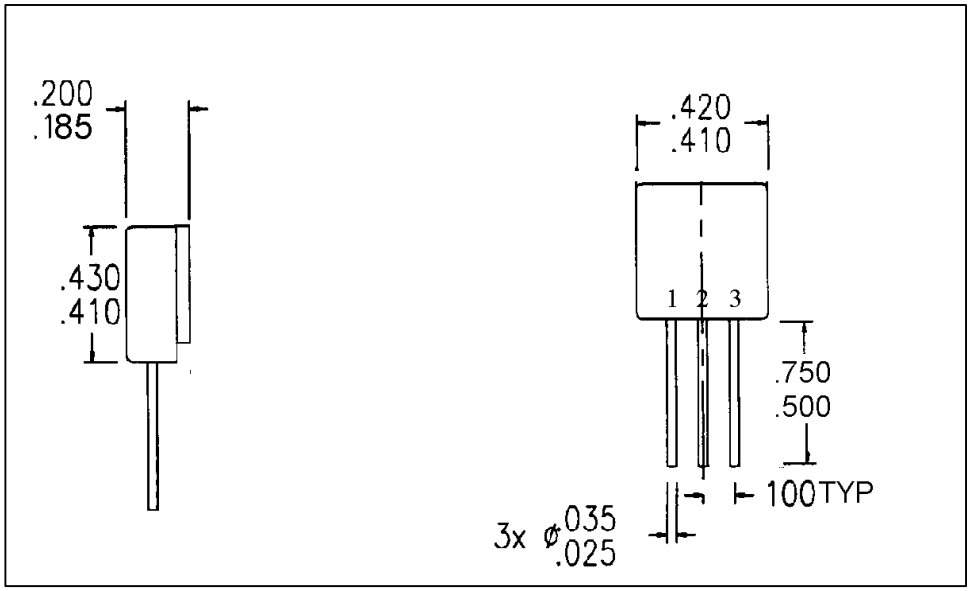
MAXIMUM RATINGS*

Rating	Symbol	NES65	NES65A	NES65B	Units
Collector-Emitter Voltage	V_{CEO}	60	80	100	Vdc
Collector-Base Voltage	V_{CBO}	60	80	100	Vdc
Emitter-Base Voltage	V_{EBO}	5.0			Vdc
Collector Current – Continuous -- Peak	I_C	12 20			Adc
Base Current – Continuous	I_B	0.6			Adc
Operating & Storage Junction Temperature Range	T_J, T_{stg}	-65 to +200			^{0}C

THERMAL CHARACTERISTICS

Characteristics	Symbol	Max.	Units
Thermal Resistance, Junction-to-Case	$R_{\theta JC}$	1.8	^{0}C\W

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



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

Characteristics	Symbol	Min	Max	Unit
OFF CHARACTERISTICS				
Collector-Emitter Sustaining Voltage (1) I_C = 30 mAdc, I_B = 0 NES65 NES65A NES65B	$V_{CEO(sus)}$	 60 80 100		Vdc
Collector-Emitter Cutoff Current V_{CE} = 30 Vdc, I_B = 0	I_{CEO}		1.0	mAdc
Collector Cutoff Current V_{CB} = Rated V_{CBO}, v_{EB} = 0	I_{CBO}		0.4	mAdc
Emitter-Base Cutoff Current V_{EB} = 5.0 Vdc, I_C = 0	I_{EBO}		5.0	mAdc
ON CHARACTERISTICS (1)				
DC Current Gain I_C = 5.0 Adc, V_{CE} = 4.0 Vdc I_C = 10 Adc, V_{CE} = 4.0 Vdc	h_{FE}	 1000 500	 TYP	
Collector-Emitter Saturation Voltage I_C = 5.0 Adc, I_B = 20 mAdc	$V_{CE(sat)}$		2.0	Vdc
Base-Emitter On Voltage I_C = 5.0 Adc, V_{CE} = 4.0 Vdc	$V_{BE(on)}$		2.5	Vdc
DYNAMIC CHARACTERISTICS				
Forward Current Transfer Ratio I_C = 5.0 Adc, V_{CE} = 3.0 Vdc, f = 1.0 MHz	$\lvert h_{fe} \rvert$	4.0		MHz
Output Capacitance V_{CB} = 10 Vdc, I_E = 0, f = 0.1 MHz	C_{obo}		300	pF
Small-Signal Current Gain I_C = 5.0 Adc, V_{CE} = 3.0 Vdc, f = 1.0 MHz	h_{fe}	300		

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