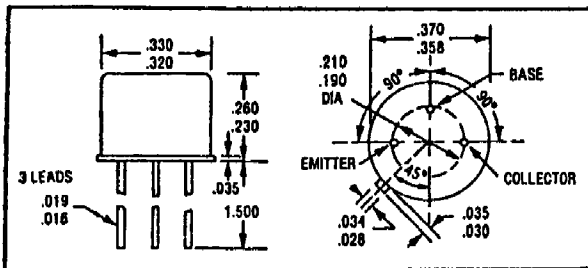


2N5013 THRU 2N5015
500 mA
HIGH VOLTAGE NPN TRANSISTOR
800 - 1000 VOLTS

JEDEC TO-5



FEATURES

- BV_{CER} AND BV_{CBO} TO 1000 VOLTS
- LOW SATURATION VOLTAGE
- LOW LEAKAGE AT HIGH TEMPERATURE
- 200°C OPERATING, GOLD EUTECTIC DIE ATTACH
- 2N5010 THRU 2N5012 ALSO AVAILABLE

MAXIMUM RATINGS

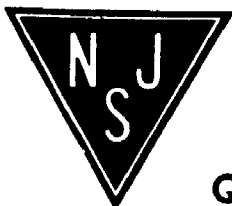
Rating	Symbol	Value	Unit
Collector - Emitter Voltage, R _{BE} = 1K Ohms	V _{CER}	800	Volts
Collector - Base Voltage	V _{CBO}	1000	Volts
Emitter - Base Voltage	V _{EBO}	5	Volts
Collector Current	I _C	500	m Amps
Base Current	I _B	50	m Amps
Total Device Dissipation @ TC = 100°C	P _D	2	Watts
Derate above 100 °C		20	mW/°C
Operating and Storage Temperature	T _J , T _{stg}	-65 to +200	°C

THERMAL CHARACTERISTICS

Characteristics	Symbol	Value	Unit
Thermal Resistance, Junction to Case	R _{θJC}	50	°C/W

ELECTRICAL CHARACTERISTICS

Characteristics	Symbol	Min.	Max.	Unit
Collector - Emitter Breakdown Voltage* (I _C = 200 μA dc, R _{BE} = 1 K ohms)	BV _{CER} *	800		Vdc
Collector - Base Breakdown Voltage (I _C = 200 μA dc)	BV _{CBO}	800		Vdc
Emitter - Base Breakdown Voltage (I _E = 50 μA dc)	BV _{EBO}	5		Vdc



ELECTRICAL CHARACTERISTICS

Characteristics		Symbol	Min.	Max.	Unit
Collector Cutoff Current	(V _{CB} = 650 Vdc) (V _{CB} = 700 Vdc) (V _{CB} = 750 Vdc)	2N5013 2N5014 2N5015		12**	μAdc
Collector Cutoff Current	(V _{CB} = 650 Vdc, T _A =100°C) (V _{CB} = 700 Vdc, T _A =100°C) (V _{CB} = 750 Vdc, T _A =100°C)	2N5013 2N5014 2N5015		100**	μAdc
DC Current Gain*	(I _C = 5 mAdc, V _{CE} = 10 Vdc) (I _C = 20 mAdc, V _{CE} = 10 Vdc)		25 30	180	
Collector - Emitter Saturation Voltage*	(I _C = 20 mAdc, I _B = 5 mAdc)	2N5013 2N5014 2N5015		1.6 1.6 1.8	Vdc
Base - Emitter Saturation Voltage*	(I _C = 20 mAdc, I _B = 5 mAdc)			1.0	Vdc
Current - Gain - Bandwith Product	(I _C = 20 mAdc, V _{CE} = 10 Vdc, f = 1 MHz)		25		MHz
Output Capacitance	(V _{CB} = 10 Vdc, I _E = 0, f = 5 MHz)			25	pf
Delay Time	(V _{CC} = 125 Vdc, I _C = 100 mAdc, I _{B1} = I _{B2} = 10 mAdc)	t _d		200	ns
Rise Time		t _r		1200	ns
Storage Time		t _s		3.0	μs
Fall Time		t _f		800	ns

*Pulse Test: Pulse width = 300 us, DutyCycle = 2%

**Typically 1 uA