

POWER TRANSISTORS

5 Amp, 150V, Planar NPN

2N5487 5487-1
 2N5488 5487-3
 5488-1
 5488-3

FEATURES

- Collector-Base Voltage: up to 150V
- D.C. Collector Current: 5A
- Peak Collector Current: 10A
- Fast Switching
- Low Saturation Voltage
- High Gain

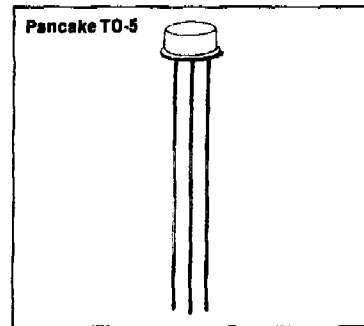
ABSOLUTE MAXIMUM RATINGS

	2N5487 5487-1 5487-3	2N5488 5488-1 5488-3
Collector-Base Voltage, V_{CBO}	120V	150V
Collector-Emitter Voltage, V_{CER}	120V	150V
Emitter-Base Voltage, V_{EBO}	8V	8V
D.C. Collector Current, I_C	5A	10A
Peak Collector Current, I_C	10A	10A
Power Dissipation		
25°C Ambient	1.25W	1.25W
100°C Case	15W	15W
Operating and Storage Temperature Range	-65°C to 200°C	

MECHANICAL SPECIFICATIONS

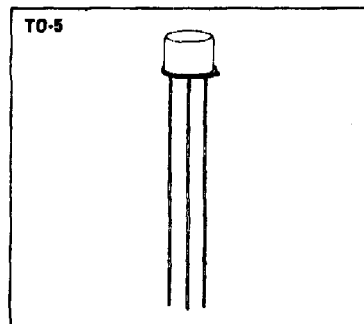
2N5487 2N5488

	INCHES	MILLIMETERS
A	.335-.370	8.51-9.40
B	.305-.335	7.75-8.51
C	.165-.185	4.19-4.70
D	1.5 MIN.	38.10 MIN.
E	.010-.030	0.254-0.762
F	.017 ± .002 .001	.432 ± .051 .025
G	.200	5.08
H	.100	2.54
J	.031 ± .003	.787 ± .076
K	.029-.045	.736-1.14
L	.100	2.54

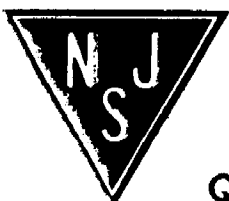


5487-1 5488-1

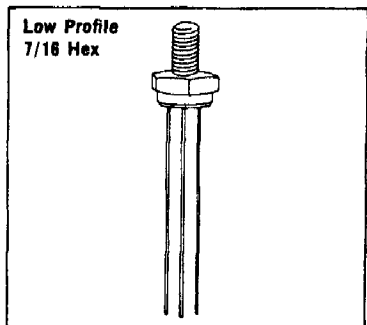
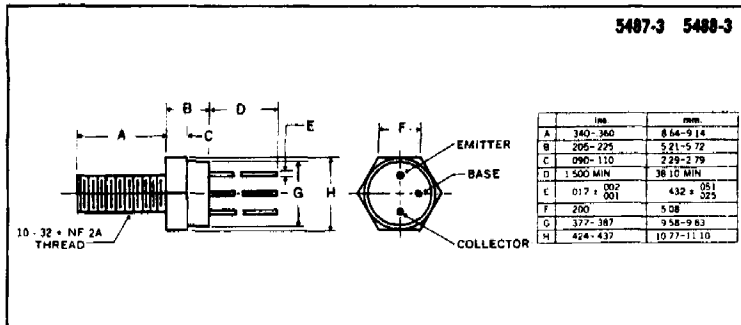
	INCHES	MILLIMETERS
A	.335-.370	8.51-9.40
B	.305-.335	7.75-8.51
C	.240-.260	6.09-6.60
D	1.5 MIN.	38.10 MIN.
E	.010-.030	0.254-0.762
F	.017 ± .002 .001	.432 ± .051 .025
G	.200	5.08
H	.100	2.54
J	.031 ± .003	.787 ± .076
K	.029-.045	.736-1.14
L	.100	2.54



NJ Semi-Conductors reserves the right to change test conditions, parameters limits and package dimensions without notice information furnished by NJ Semi-Conductors is believed to be both accurate and reliable at the time of going to press. However NJ Semi-Conductors assumes no responsibility for any errors or omissions discovered in its use. NJ Semi-Conductors encourages customers to verify that datasheets are current before placing orders.



MECHANICAL SPECIFICATIONS



ELECTRICAL SPECIFICATIONS (at 25°C unless noted)†

Test	Symbol	2N5487		2N5488		Units	Test Conditions
		Min.	Max.	Min.	Max.		
D.C. Current Gain (Note 3)	h_{FE}	100	300	40	120	—	$I_C = 1A, V_{CE} = 2V$
D.C. Current Gain	h_{FE}	80		35		—	$I_C = 50mA, V_{CE} = 2V$
D.C. Current Gain (Note 3)	h_{FE}	25		15		—	$I_C = 5A, V_{CE} = 5V$
Collector Saturation Voltage (Note 3)	$V_{CE(sat)}$		0.25		0.25	V	$I_C = 1A, I_B = 100mA$
Collector Saturation Voltage (Note 3)	$V_{CE(sat)}$		1.0		1.0	V	$I_C = 5A, I_B = 500mA$
Base Saturation Voltage (Note 3)	$V_{BE(sat)}$		1.2		1.2	V	$I_C = 1A, I_B = 100mA$
Base Saturation Voltage (Note 3)	$V_{BE(sat)}$		1.8		1.8	V	$I_C = 5A, I_B = 500mA$
Collector-Emitter Breakdown Voltage (Note 3)	BV_{CER}	120		150		V	$I_C = 10mA, R_{BE} = 10\text{ ohms}$
Collector-Emitter Breakdown Voltage (Note 3)	BV_{CEO}	80		100		V	$I_C = 100mA, I_B = 0$
Emitter-Base Breakdown Voltage	BV_{EBO}	8		8		V	$I_E = 10\mu A, I_C = 0$
Collector Cutoff Current	I_{CES}		0.1			μA	$V_{CE} = 80V, R_{BE} = 0$
Collector Cutoff Current	I_{CES}				0.1	μA	$V_{CE} = 100V, R_{BE} = 0$
Collector Cutoff Current	I_{CES}		10			μA	$V_{CE} = 120V, R_{BE} = 0$
Collector Cutoff Current	I_{CES}				10	μA	$V_{CE} = 150V, R_{BE} = 0$
Collector Cutoff Current, 150°C	I_{CES}		50			μA	$V_{CE} = 80V, R_{BE} = 0$
Collector Cutoff Current, 150°C	I_{CES}				50	μA	$V_{CE} = 100V, R_{BE} = 0$
Collector Capacitance	C_{ob}		75		75	pf	$V_{CB} = 10V, I_E = 0$
A.C. Current Gain	h_{fb}	4		4			$I_C = 200mA, V_{CE} = 5V, f = 10MHz$
Switching Speeds	Turn-on Time	t_{on}	125		125	ns	2N5487
	Turn-off Time	t_{off}	450		550	ns	2N5488

Notes:

- The device may be switched between maximum rated collector current and maximum rated collector-emitter voltage along a resistive load line provided the switching time is less than 10 microseconds. Switching at low speed through regions of high instantaneous power dissipation may cause second breakdown to occur, with consequent damage to the device.
 - Steady state limits based on a maximum junction temperature of 200°C. High pulse power dissipation may cause second breakdown.
 - Pulse width = 300 μs ; duty cycle $\leq 2\%$.
- † All values in this table are JEDEC registered.