

NPN SILICON PLANAR SWITCHING TRANSISTORS

2N1481, 2N1482



TO- 39
Metal Can Package

Medium Power Amplifier and Switching Applications

ABSOLUTE MAXIMUM RATINGS

DESCRIPTION	SYMBOL	2N1481	2N1482	UNIT
Collector Emitter Voltage	V_{CEO}	40	55	V
Collector Emitter Voltage	V_{CEX}	60	100	V
Collector Base Voltage	V_{CBO}	60	100	V
Emitter Base Voltage	V_{EBO}	6.0		V
Collector Current Continuous	I_C	1.5		A
Power Dissipation at $T_a=25^\circ\text{C}$ Derate Above 25°C	P_D	1.0 5.71		W mW/ $^\circ\text{C}$
Power Dissipation at $T_c=25^\circ\text{C}$ Derate Above 25°C	P_D	5.0 28.6		W mW/ $^\circ\text{C}$
Operating And Storage Junction Temperature Range	T_j, T_{stg}	- 65 to +200		$^\circ\text{C}$

THERMAL RESISTANCE

Thermal Resistance Junction to Ambient	$R_{th(j-a)}$	175	$^\circ\text{C/W}$
Thermal Resistance Junction to Case	$R_{th(j-c)}$	35	$^\circ\text{C/W}$

ELECTRICAL CHARACTERISTICS ($T_a=25^\circ\text{C}$ unless specified otherwise)

DESCRIPTION	SYMBOL	TEST CONDITION	2N1481	2N1482	UNIT
Collector Emitter Voltage	V_{CEO}	$I_C=1\text{mA}, I_B=0$	>40	>55	V
Collector Emitter Breakdown Voltage	V_{CEX}	$I_C=250\mu\text{A}, V_{BE}=1.5\text{V}$	>60	>100	V
Collector Cut-Off Current	I_{CBO}	$V_{CB}=30\text{V}, I_E=0$	<10		μA
		$V_{CB}=30\text{V}, I_E=0, T_a=150^\circ\text{C}$	<500		μA
Emitter Cut-Off Current	I_{EBO}	$V_{EB}=6\text{V}, I_C=0$	<10		μA
Collector Emitter Saturation Voltage	$*V_{CE(sat)}$	$I_C=200\text{mA}, I_B=10\text{mA}$	<0.75		V
Base Emitter on Voltage	$*V_{BE(ON)}$	$I_C=200\text{mA}, V_{CE}=4\text{V}$	<3.0		V
DC Current Gain	$*h_{FE}$	$I_C=200\text{mA}, V_{CE}=4\text{V}$	35-100		

*Pulse Test: Pulse Width $\leq 300\mu\text{s}$, Duty Cycle $\leq 2\%$

2N1481_82 Rev-1 020310D

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ELECTRICAL CHARACTERISTICS (T_a=25°C unless specified otherwise)

DYNAMIC CHARACTERISTICS

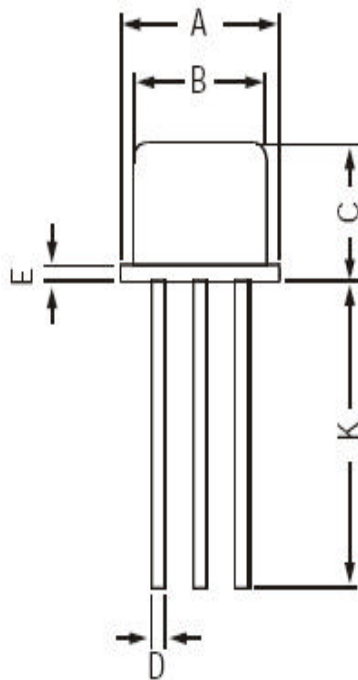
DESCRIPTION	SYMBOL	TEST CONDITION	2N1481	2N1482	UNIT
Small Signal Current Gain	h_{fe}	$V_{CE}=4V, I_C=5mA,$ $f=1KHz$	TYP 50		
Output Capacitance	C_{ob}	$V_{CB}=10V, I_E=0,$ $f=1MHz$	TYP 150		pF

SWITCHING TIME

DESCRIPTION	SYMBOL	TEST CONDITION	2N1481	2N1482	UNIT
Turn-On Time	t_{ON}	$I_C=200mA, R_L=60\Omega$ $I_{B1}=20mA, I_{B2}=85mA$	Typ 1.2		μs
Storage time	t_{stg}		Typ 0.6		μs
Fall Time	t_f		Typ 1.0		μs

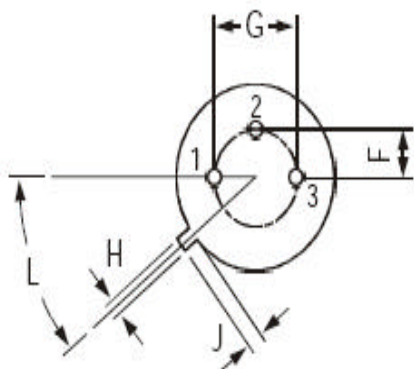
*Pulse Test: Pulse Width $\leq 300\mu s$, Duty Cycle $\leq 2\%$

TO-39 Metal Can Package



All dimensions are in mm

DIM	MIN	MAX
A	8.50	9.39
B	7.74	8.50
C	6.09	6.60
D	0.40	0.53
E	—	0.88
F	2.41	2.66
G	4.82	5.33
H	0.71	0.86
J	0.73	1.02
K	12.70	—
L	42 DEG	48 DEG



PIN CONFIGURATION
1. EMITTER
2. BASE
3. COLLECTOR

Packing Detail

PACKAGE	STANDARD PACK		INNER CARTON BOX		OUTER CARTON BOX		
	Details	Net Weight/Qty	Size	Qty	Size	Qty	Gr Wt
TO-39	500 pcs/polybag	540 gm/500 pcs	3' x 7.5' x 7.5'	20K	17' x 15' x 13.5'	32K	40 kgs

Component Disposal Instructions

1. CDIL Semiconductor Devices are RoHS compliant, customers are requested to please dispose as per prevailing Environmental Legislation of their Country.
2. In Europe, please dispose as per EU Directive 2002/96/EC on Waste Electrical and Electronic Equipment (WEEE).

Disclaimer

The product information and the selection guides facilitate selection of the CDIL's Semiconductor Device(s) best suited for application in your product(s) as per your requirement. It is recommended that you completely review our Data Sheet(s) so as to confirm that the Device(s) meet functionality parameters for your application. The information furnished in the Data Sheet and on the CDIL Web Site/CD are believed to be accurate and reliable. CDIL however, does not assume responsibility for inaccuracies or incomplete information. Furthermore, CDIL does not assume liability whatsoever, arising out of the application or use of any CDIL product; neither does it convey any license under its patent rights nor rights of others. These products are not designed for use in life saving/support appliances or systems. CDIL customers selling these products (either as individual Semiconductor Devices or incorporated in their end products), in any life saving/support appliances or systems or applications do so at their own risk and CDIL will not be responsible for any damages resulting from such sale(s).

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