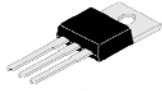


40W SILICON SWITCHING TRANSISTORS

NPN	PNP
2N6473	2N6475
2N6474	2N6476



TO-220

**TO-220 Leaded
Plastic Package
RoHS compliant**

GENERAL DESCRIPTION:

These Transistors series are complimentary silicon power transistors ,manufactured by epitaxial base process.

APPLICATIONS:

General purpose amplifier and switching applications

ABSOLUTE MAXIMUM RATINGS (T_a = 25 °C)

PARAMETER	SYMBOL	VALUE				UNIT
		2N6473	2N6475	2N6474	2N6476	
Collector-Base Voltage	V _{CBO}	110		130		V
Collector Emitter Voltage (R _{BE} =100Ω)	V _{CER}	110		130		V
Collector Emitter Voltage	V _{CEO}	100		120		V
Emitter-Base Voltage	V _{EBO}	5.0				V
Continues Collector Current	I _C	4.0				A
Continues Base Current	I _B	2.0				A
Power Dissipation	P _D	40				W
Operating and Storage Junction Temperature	T _J ,T _{STG}	-65 to +150				°C

THERMAL RESISTANCE

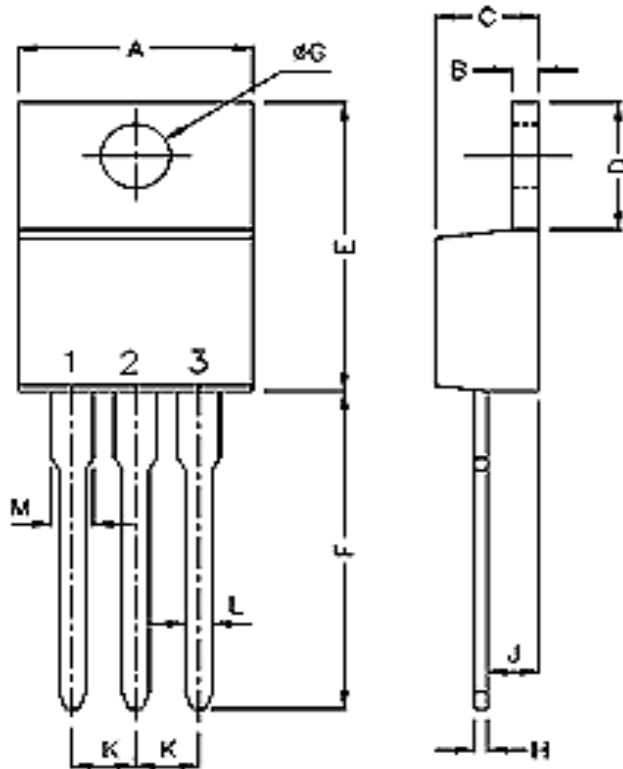
Thermal Resistance, Junction to Case	R _{θJC}	3.125	°C/W
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ELECTRICAL CHARACTERISTICS (T_C = 25°C unless otherwise specified)

PARAMETER	SYMBOL	TEST CONDITION	2N6473 2N6475		2N6474 2N6476		UNIT
			MIN	Max	MIN	Max	
Collector Cutoff Current	I _{CEV}	V _{CE} = Rated V _{CEO} , V _{BE} =1.5V	--	0.1	--	0.1	mA
		V _{CE} = Rated V _{CEO} , V _{BE} =1.5V, T _C =100° C	--	2.0	--	2.0	mA
Collector to Emitter Leakage Current	I _{CER}	V _{CE} = Rated V _{CER} , R _{BE} =100Ω,	--	0.1	--	0.1	mA
		V _{CE} = Rated V _{CER} , R _{BE} =100Ω, T _C =100° C	--	2.0	--	2.0	
Collector Emitter Cutoff Current	I _{CEO}	V _{CE} =½ Rated V _{CEO}	--	1.0	--	1.0	mA
Emitter Base Cutoff Current	I _{EBO}	V _{BE} =5.0 V	--	1.0	--	1.0	mA
Collector Emitter Breakdown Voltage	BV _{CEO}	I _C =100mA	100	--	120		V
	BV _{CER}	I _C = 100mA, R _{BE} =100Ω	110	--	130		V
Collector-Emitter Saturation Voltage	V _{CE(SAT)}	I _C = 1.5A, I _B = 0.15A	--	1.2	--	1.2	V
		I _C = 4.0A, I _B = 2,0A	--	2.5	--	2.5	V
Base to Emitter Turn On Voltage	V _{BE(ON)}	V _{CE} = 4.0V, I _C =1.5A	--	2	--	2	V
		V _{CE} = 2.5V, I _C =4.0A	--	3.5	--	3.5	V
DC Current Gain	h _{FE}	V _{CE} = 4.0V, I _C =1.5A	15	150	15	150	
		V _{CE} = 2.5V, I _C =4.0A	2.0	--	2.0	--	
Small Signal Current Gain	h _{fe}	V _{CE} = 4.0V, I _C =0.5A, f=50kHz	20	--	20	--	
Transition Frequency	f _T	V _{CE} =4.0V, I _C =0.5A (2N6473,2N6474)	4.0	--	4.0	--	MHz
		V _{CE} =4.0V, I _C =0.5A (2N6475,2N6476)	5.0	--	5.0	--	MHz
Collector Base Capacitance	C _{ob}	V _{CB} =10V, f=1.0MHz	--	250	--	250	pF

PACKAGE DETAILS

TO-220 Leaded Plastic Package



DIM	MIN	TYP.	MAX
A	--	--	10.7
B	--	--	1.4
C	--	--	4.8
D	--	--	6.9
E	--	--	16.5
F	12.5	--	--
G	--	3.81	--
H	--	--	0.4
J	--	2.67	--
K	--	2.51	--
L	--	--	1.2
M	--	1.27	--

All Dimensions are in mm

PIN CONFIGURATION

1. Emitter
2. Collector
3. Base



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Recommended Product Storage Environment for Discrete Semiconductor Devices

This storage environment assumes that the Diodes and transistors are packed properly inside the original packing supplied by CDIL.

- Temperature 5 °C to 30 °C
- Humidity between 40 to 70 %RH
- Air should be clean.
- Avoid harmful gas or dust.
- Avoid outdoor exposure or storage in areas subject to rain or water spraying .
- Avoid storage in areas subject to corrosive gas or dust. Product shall not be stored in areas exposed to direct sunlight.
- Avoid rapid change of temperature.
- Avoid condensation.
- Mechanical stress such as vibration and impact shall be avoided.
- The product shall not be placed directly on the floor.
- The product shall be stored on a plane area. They should not be turned upside down. They should not be placed against the wall.

Shelf Life of CDIL Products

The shelf life of products is the period from product manufacture to shipment to customers. The product can be unconditionally shipped within this period. The period is defined as 2 years.

If products are stored longer than the shelf life of 2 years the products shall be subjected to quality check as per CDIL quality procedure.

The products are further warranted for another one year after the date of shipment subject to the above conditions in CDIL original packing.

Floor Life of CDIL Products and MSL Level

When the products are opened from the original packing, the floor life will start.

For this, the following JEDEC table may be referred:

JEDEC MSL Level		
Level	Time	Condition
1	Unlimited	≤30 °C / 85% RH
2	1 Year	≤30 °C / 60% RH
2a	4 Weeks	≤30 °C / 60% RH
3	168 Hours	≤30 °C / 60% RH
4	72 Hours	≤30 °C / 60% RH
5	48 Hours	≤30 °C / 60% RH
5a	24 Hours	≤30 °C / 60% RH
6	Time on Label(TOL)	≤30 °C / 60% RH



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Customer Notes

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).

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).

CDIL strives for continuous improvement and reserves the right to change the specifications of its products without prior notice.



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