

Silicon NPN Power Transistors

2N6738 2N6739 2N6740

DESCRIPTION

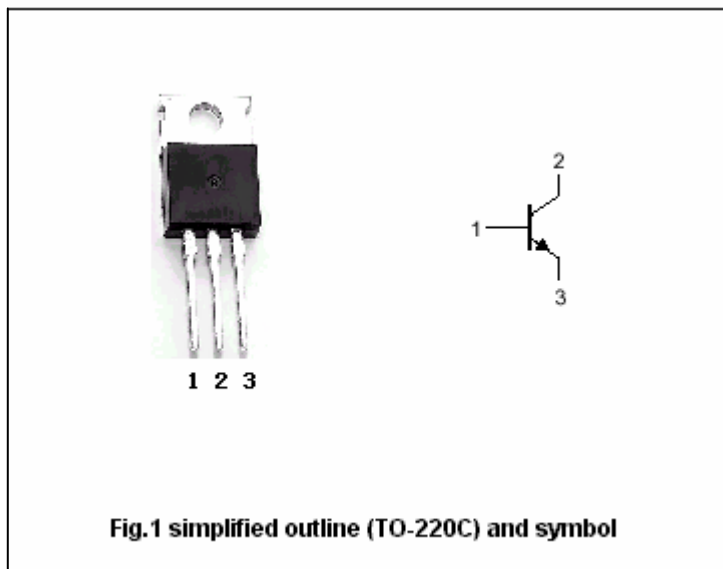
- With TO-220 package
- High voltage ratings
- Low collector saturation voltage
- Fast switching speed

APPLICATIONS

- Suited for 115 and 220V switchmode applications such as switching regulators, Inverters and DC-DC converters

PINNING

PIN	DESCRIPTION
1	Base
2	Collector;connected to mounting base
3	Emitter

Absolute maximum ratings($T_a=25^\circ\text{C}$)

SYMBOL	PARAMETER		CONDITIONS	VALUE	UNIT
V_{CBO}	Collector-base voltage	2N6738	Open emitter	450	V
		2N6739		550	
		2N6740		650	
V_{CEO}	Collector-emitter voltage	2N6738	Open base	300	V
		2N6739		350	
		2N6740		400	
V_{EBO}	Emitter-base voltage		Open collector	8	V
I_C	Collector current			8	A
I_{CM}	Collector current-peak			10	A
I_B	Base current			4	A
P_T	Total power dissipation		$T_C=25^\circ\text{C}$	100	W
T_j	Junction temperature			150	$^\circ\text{C}$
T_{stg}	Storage temperature			-65~150	$^\circ\text{C}$

THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	MAX	UNIT
$R_{th\ j-c}$	Thermal resistance from junction to case	1.25	$^\circ\text{C}/\text{W}$

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CHARACTERISTICS

Tj=25°C unless otherwise specified

SYMBOL	PARAMETER		CONDITIONS	MIN	TYP.	MAX	UNIT
V _{CEO(SUS)}	Collector-emitter sustaining voltage	2N6738	I _C =0.2A ; I _B =0	300			V
		2N6739		350			
		2N6740		400			
V _{CEsat-1}	Collector-emitter saturation voltage		I _C =5A; I _B =1A			1.0	V
V _{CEsat-2}	Collector-emitter saturation voltage		I _C =8A; I _B =4A			2.0	V
V _{BEsat}	Base-emitter saturation voltage		I _C =5A; I _B =1A			1.6	V
I _{CEV}	Collector cut-off current		V _{CEV} =Rated V _{CEV} ; V _{BE} =-1.5V T _C =100°C			0.1 1.0	mA
I _{EBO}	Emitter cut-off current		V _{EB} =8V; I _C =0			2.0	mA
h _{FE}	DC current gain		I _C =5A ; V _{CE} =3V	10		40	
f _T	Transition frequency		I _C =0.2A ; V _{CE} =10V	10		60	MHz

Switching times

t _d	Delay time	I _C =5A; I _{B1} =-I _{B2} =1A V _{CC} =125V t _p =20μs, Duty cycle≤1.0%			0.1	μs
t _r	Rise time				0.4	μs
t _s	Storage time				2.5	μs
t _f	Fall time				0.5	μs

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PACKAGE OUTLINE

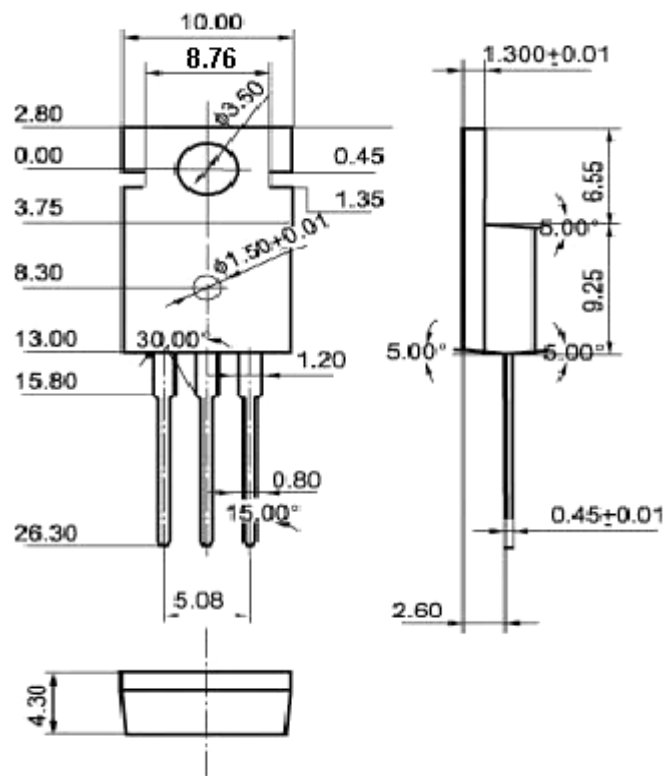


Fig.2 Outline dimensions(unindicated tolerance:±0.10 mm)