

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

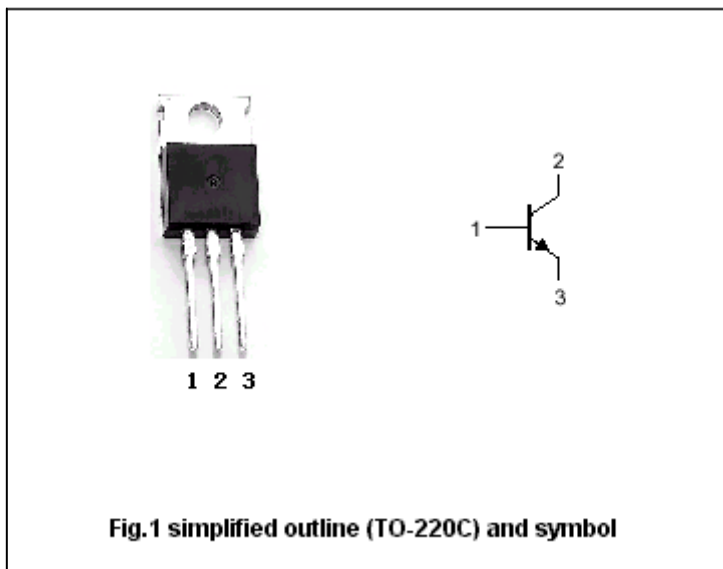


Fig.1 simplified outline (TO-220C) and symbol

Absolute maximum ratings(Ta=25°C)

SYMBOL	PARAMETER	CONDITIONS	VALUE	UNIT
V _{CBO}	Collector-base voltage	2N6738	450	V
		2N6739	550	
		2N6740	650	
V _{CEO}	Collector-emitter voltage	2N6738	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°C	100	W
T _j	Junction temperature		150	°C
T _{stg}	Storage temperature		-65~150	°C

THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	MAX	UNIT
R _{th j-c}	Thermal resistance from junction to case	1.25	°C/W

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CHARACTERISTICS

T_j=25°C unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP.	MAX	UNIT
V _{CEO(SUS)}	Collector-emitter sustaining voltage	2N6738	300			V
		2N6739	350			
		2N6740	400			
		I _C =0.2A ; I _B =0				
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 =20 μ s, Duty cycle ≤ 1.0%			0.1	μ s
t _r	Rise time				0.4	μ s
t _s	Storage time				2.5	μ s
t _f	Fall time				0.5	μ s

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PACKAGE OUTLINE



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