

Silicon NPN Power Transistors

2N5838 2N5839 2N5840

DESCRIPTION

- With TO-3 package
- Low collector-emitter saturation voltage

APPLICATIONS

- For use in switching power supply applications and other inductive switching circuits.

PINNING

PIN	DESCRIPTION
1	Base
2	Emitter
3	Collector

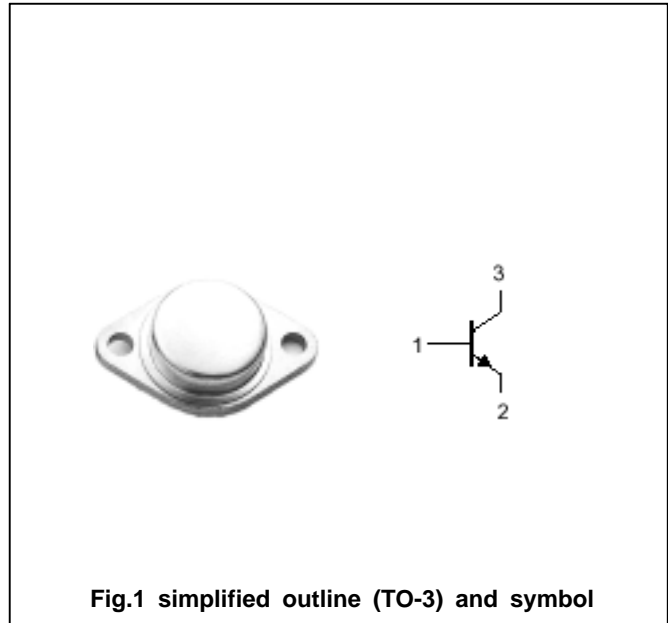


Fig.1 simplified outline (TO-3) and symbol

Absolute maximum ratings($T_a =$)

SYMBOL	PARAMETER	CONDITIONS	VALUE	UNIT
V_{CBO}	Collector-base voltage	2N5838	275	V
		2N5839	300	
		2N5840	375	
V_{CEO}	Collector-emitter voltage	2N5838	250	V
		2N5839	275	
		2N5840	350	
V_{EBO}	Emitter-base voltage	Open collector	6	V
I_C	Collector current		3	A
P_D	Total power dissipation	$T_C = 25$	100	W
T_j	Junction temperature		150	
T_{stg}	Storage temperature		-65~200	

THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	VALUE	UNIT
$R_{th\ j-c}$	Thermal resistance junction to case	1.25	/W

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CHARACTERISTICS

T_j=25 unless otherwise specified

SYMBOL	PARAMETER		CONDITIONS	MIN	TYP.	MAX	UNIT
V _{CEO}	Collector-emitter sustaining voltage	2N5838	I _C =0.1A ; I _B =0	250			V
		2N5839		275			
		2N5840		350			
V _{CEsat}	Collector-emitter saturation voltage		I _C =2A; I _B =0.4A			0.8	V
V _{BEsat}	Base-emitter saturation voltage		I _C =2A; I _B =0.4A			1.5	V
I _{CBO}	Collector cut-off current		V _{CB} =Rated V _{CB0} ; I _E =0			1.0	mA
I _{CEV}	Collector cut-off current		V _{CE} = Rated V _{CEO} ; V _{BE(off)} =1.5V			1.0	mA
I _{EBO}	Emitter cut-off current		V _{EB} =5V; I _C =0			1.0	mA
h _{FE}	DC current gain	2N5838	I _C =3A ; V _{CE} =3V	8		40	
		2N5839/5840	I _C =2A ; V _{CE} =3V	10		50	
f _T	Transition frequency		I _C =1A ; V _{CE} =10V; f=1.0MHz	5			MHz

