

Silicon NPN Power Transistors

2SD2015

DESCRIPTION

- With TO-220F package
- DARLINGTON

APPLICATIONS

- Driver for solenoid
- Relay and motor
- General purpose

PINNING

PIN	DESCRIPTION
1	Base
2	Collector
3	Emitter

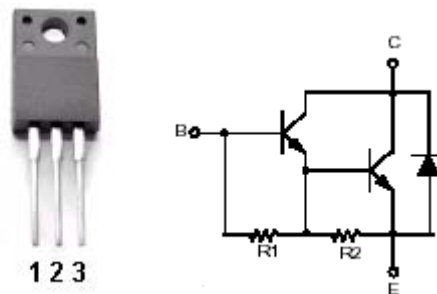


Fig.1 simplified outline (TO-220F) and symbol

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

SYMBOL	PARAMETER	CONDITIONS	VALUE	UNIT
V_{CBO}	Collector-base voltage	Open emitter	150	V
V_{CEO}	Collector-emitter voltage	Open base	120	V
V_{EBO}	Emitter-base voltage	Open collector	6	V
I_C	Collector current		4	A
I_B	Base current		0.5	A
P_C	Collector dissipation	$T_C=25$	25	W
T_j	Junction temperature		150	
T_{stg}	Storage temperature		-55~150	

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CHARACTERISTICS

Tj=25 unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP.	MAX	UNIT
V_{CEO}	Collector-emitter breakdown voltage	$I_C=10mA ; I_B=0$	120			V
V_{CEsat}	Collector-emitter saturation voltage	$I_C=2A ; I_B=2mA$			1.5	V
V_{BEsat}	Base-emitter saturation voltage	$I_C=2A ; I_B=2mA$			2.0	V
I_{CBO}	Collector cut-off current	$V_{CB}=150V ; I_E=0$			10	μA
I_{EBO}	Emitter cut-off current	$V_{EB}=6V ; I_C=0$			10	mA
h_{FE}	DC current gain	$I_C=2A ; V_{CE}=2V$	2000			
f_T	Transition frequency	$I_C=0.1A ; V_{CE}=12V$		40		MHz
C_{OB}	Collector output capacitance	$f=1MHz ; V_{CB}=10V$		40		pF

Switching times

t_{on}	Turn-on time	$I_C=2.0A \quad I_{B1}=-I_{B2}=10mA$ $V_{CC}=40V, R_L=20\Omega$		0.6		μs
t_s	Storage time			5.0		μs
t_f	Fall time			2.0		μs

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PACKAGE OUTLINE

