

Silicon NPN Darlington Power Transistors

2SC3144

DESCRIPTION

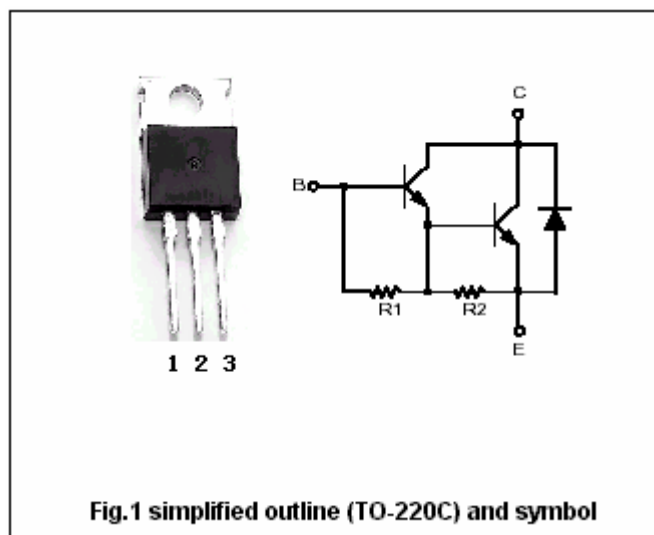
- With TO-220C package
- High switching speed
- High DC current gain
- Wide area of safe operation
- Complement to type 2SA1258

APPLICATIONS

- 60V/3A for High-Speed Drivers Applications

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	Open emitter	70	V
V_{CEO}	Collector-emitter voltage	Open base	60	V
V_{EBO}	Emitter-base voltage	Open collector	5	V
I_C	Collector current-DC		3	A
I_{CP}	Collector current-Pulse		5	A
P_C	Collector power dissipation	$T_C=25^\circ\text{C}$	20	W
		$T_a=25^\circ\text{C}$	1.75	
T_j	Junction temperature		125	$^\circ\text{C}$
T_{stg}	Storage temperature		-55~125	$^\circ\text{C}$

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CHARACTERISTICS

Tj=25°C unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP.	MAX	UNIT
$V_{(BR)CEO}$	Collector-emitter breakdown voltage	$I_C=50mA ; R_{BE}=\infty$	60			V
$V_{(BR)CBO}$	Collector-base breakdown voltage	$I_C=5mA ; I_E=0$	70			V
$V_{CE(sat)-1}$	Collector-emitter saturation voltage	$I_C=1.5A , I_B=3mA$		0.9	1.5	V
$V_{CE(sat)-2}$	Collector-emitter saturation voltage	$I_C=1.5A , I_B=3mA$			2.0	V
I_{CBO}	Collector cut-off current	$V_{CB}=40V , I_E=0$			0.1	mA
I_{EBO}	Emitter cut-off current	$V_{EB}=5V ; I_C=0$			3.0	mA
h_{FE}	DC current gain	$I_C=1.5A ; V_{CE}=2V$	2000			
f_T	Transition frequency	$I_C=1.5A ; V_{CE}=5V$		200		MHz

Switching times

t_{on}	Turn-on time	$I_C=1A ; I_{B1}=-I_{B2}=2mA$ $R_L=20\Omega, V_{CC}=20V$		0.3		μs
t_s	Storage time			1.2		μs
t_f	Fall time			0.2		μs

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PACKAGE OUTLINE

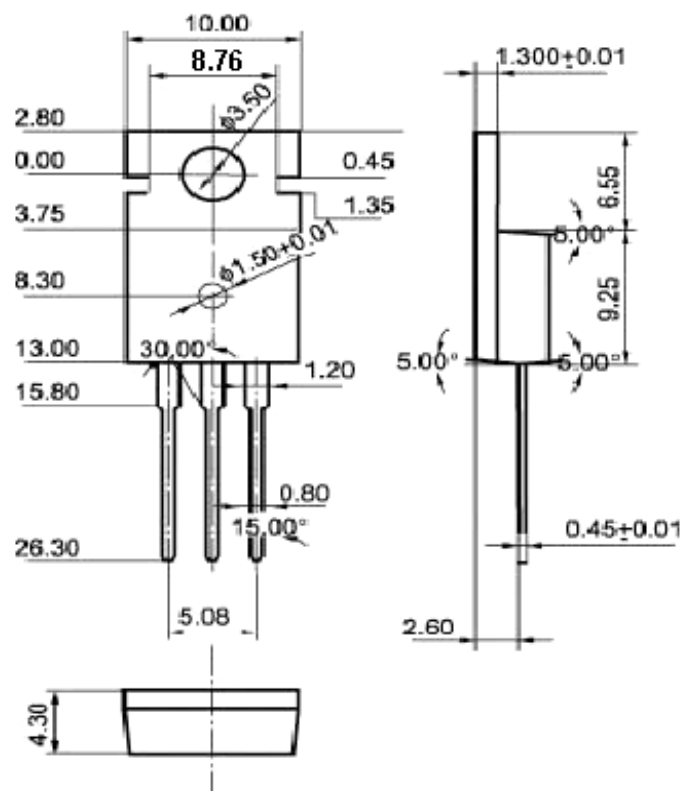


Fig.2 Outline dimensions (unindicated tolerance:±0.10 mm)