Ordering number:ENN2476A

NPN Epitaxial Planar Silicon Transistor

2SC4169

Driver Applications

Applications

· Suitable for use in switching of L load (motor drivers, printer hammer drivers, relay drivers).

Features

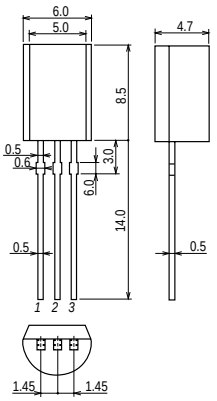
· On-chip Zener diode of 60±10V between collector and base.
· Uniformity in collector-to-base voltage.
· High DC current gain : h_{FE}=1000 min (V_{CE}=5V, I_C=500mA).
· Wide ASO.
· High inductive load handling capability : Es/b=15mJ (min).

Package Dimensions

unit:mm

2006B

[2SC4169]



1 : Emitter
2 : Collector
3 : Base
SANYO : MP

Specifications

Absolute Maximum Ratings at Ta = 25˚C

Parameter	Symbol	Conditions	Ratings	Unit
Collector-to-Base Voltage	V_{CBO}		50*	V
Collector-to-Emitter Voltage	V_{CEO}		50*	V
Emitter-to-Base Voltage	V_{EBO}		6	V
Collector Current	I_C		1.2	A
Collector Current (Pulse)	I_{CP}		2.5	A
Collector Dissipation	P_C		1	mW
Junction Temperature	Tj		150	˚C
Storage Temperature	Tstg		–55 to +150	˚C

* : On-chip Zener diode of 60±10V

Electrical Characteristics at Ta = 25˚C

Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Collector Cutoff Current	I_{CBO}	V_{CB}=40V, I_E=0			10	μA
Emitter Cutoff Current	I_{EBO}	V_{EB}=5V, I_C=0			10	μA
DC Current Gain	h_{FE}	V_{CE}=5V, I_C=500mA	1000	4000		
Collector-to-Emitter Saturation Voltage	$V_{CE(sat)}$	I_C=500mA, I_B=2mA		1.0	1.5	V
Base-to-Emitter Saturation Voltage	$V_{BE(sat)}$	I_C=500mA, I_B=2mA			2.0	V
Inductive Load Handling Capability	Es/b	L=100mH, R_{BE}=100Ω	15			mJ

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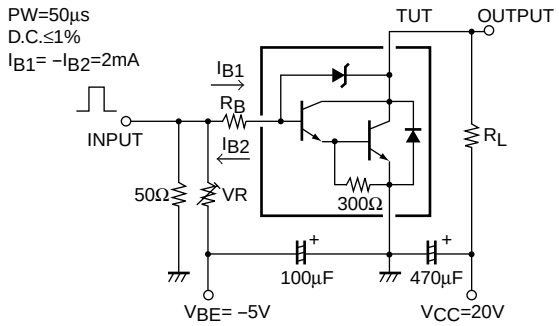
Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Collector-to-Base Breakdown Voltage	$V_{(BR)CBO}$	I_C=100μA, I_E=0	50	60	70	V
Collector-to-Emitter Breakdown Voltage	$V_{(BR)CEO}$	I_C=1mA, R_{BE}=∞	50	60	70	V
Turn-ON Time	t_{on}	See specified Test Circuit.		0.2		μs
Storage Time	t_{stg}	See specified Test Circuit.		2.2		μs
Fall Time	t_f	See specified Test Circuit.		0.4		μs

Switching Time Test Circuit



I_C=250I_{B1}= −250I_{B2}=500mA

Es/b Test Circuit