

**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 $60\pm 10V$ 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).

Specifications**Absolute Maximum Ratings** at $T_a = 25^\circ C$

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	T_J		150	$^\circ C$
Storage Temperature	T_{stg}		-55 to +150	$^\circ C$

* : On-chip Zener diode of $60\pm 10V$ **Electrical Characteristics** at $T_a = 25^\circ C$

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	$L=100mH, R_{BE}=100\Omega$	15			mJ

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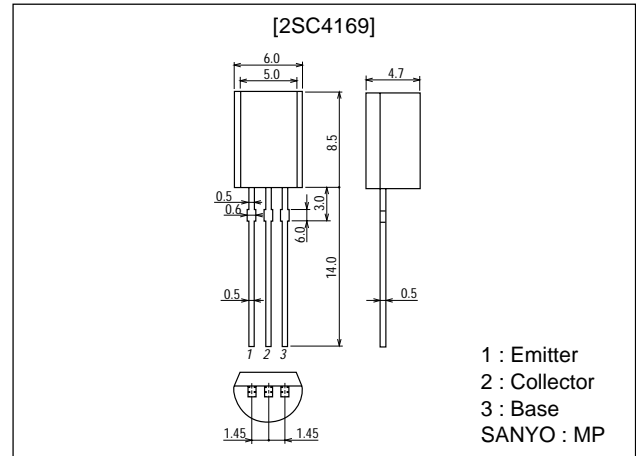
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Package Dimensions

unit:mm

2006B



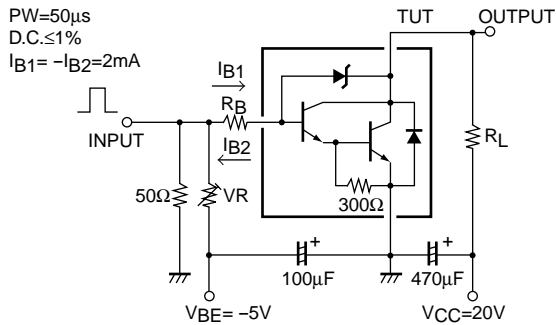
1 : Emitter
2 : Collector
3 : Base
SANYO : MP

2SC4169

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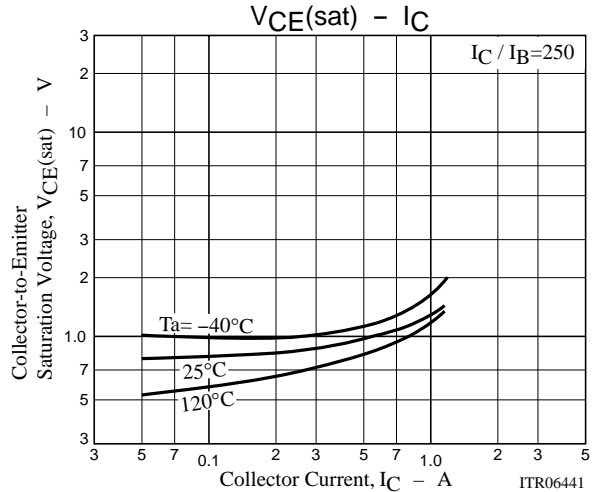
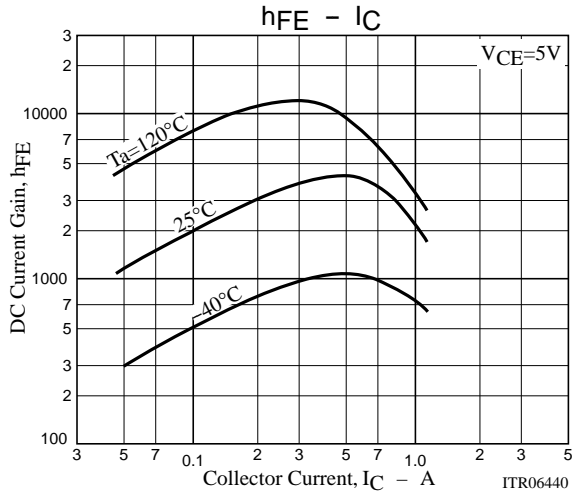
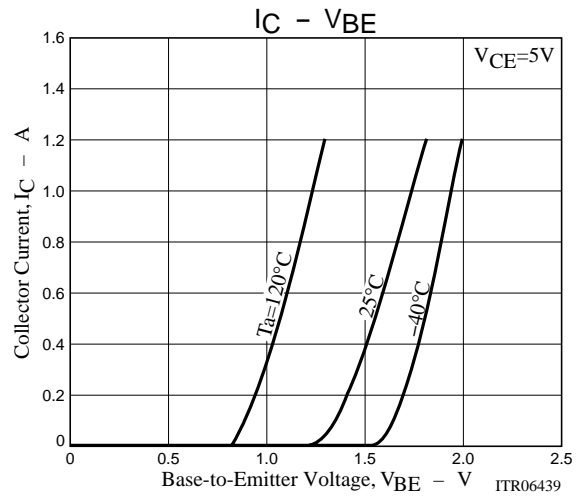
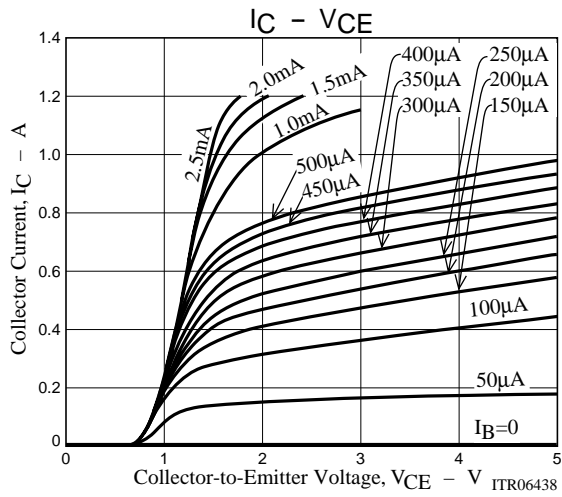
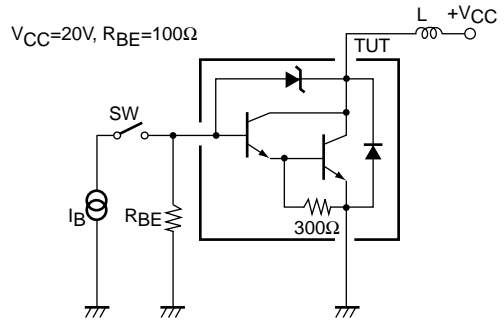
Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Collector-to-Base Breakdown Voltage	$V_{(BR)CBO}$	$I_C=100\mu A, I_E=0$	50	60	70	V
Collector-to-Emitter Breakdown Voltage	$V_{(BR)CEO}$	$I_C=1mA, R_{BE}=\infty$	50	60	70	V
Turn-ON Time	t_{on}	See specified Test Circuit.		0.2		μs
Storage Time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

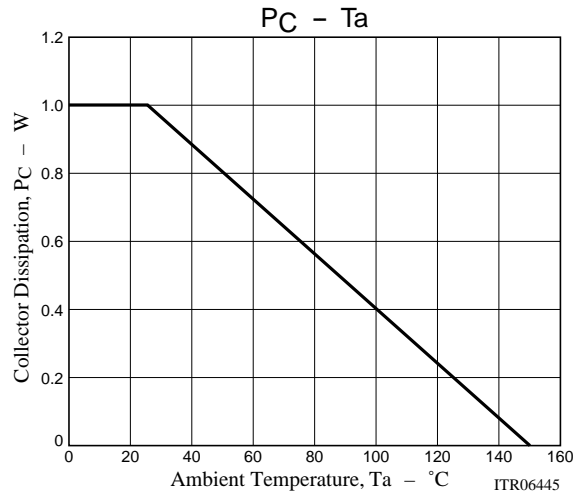
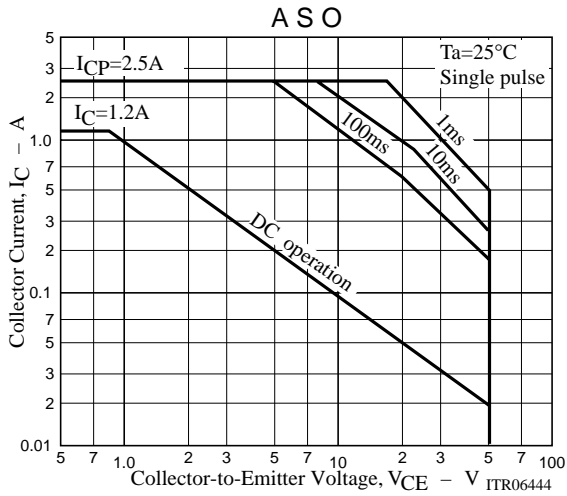
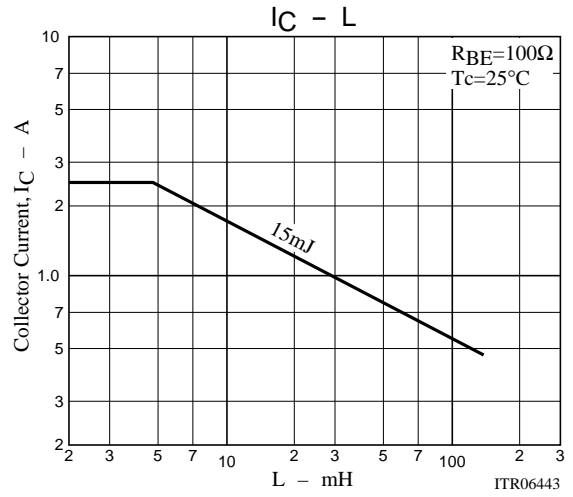
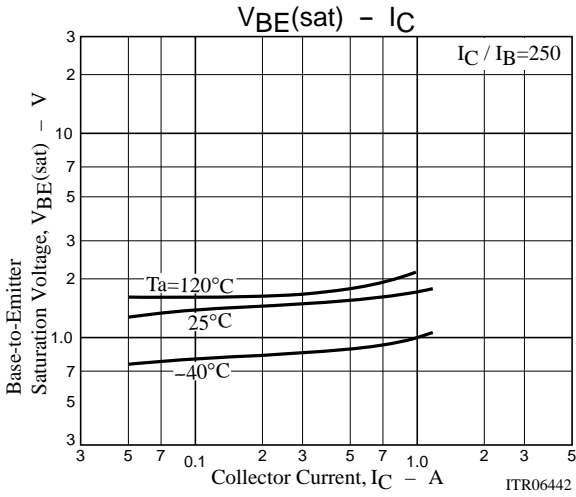
Switching Time Test Circuit



$$I_C = 250I_{B1} = -250I_{B2} = 500mA$$

Es/b Test Circuit





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