



## 2SA2016

## PNP PLANAR TRANSISTOR

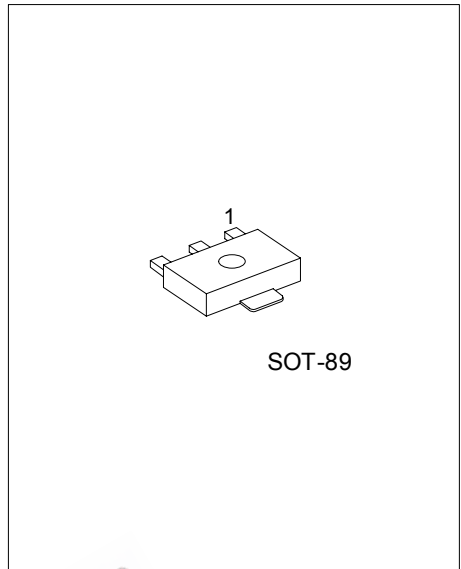
### PNP EPITAXIAL PLANAR TRANSISTOR

#### ■ APPLICATIONS

\* Relay drivers, lamp drivers, motor drivers, strobes.

#### ■ FEATURES

- \*High current capacitance.
- \*Low collector-to-emitter saturation voltage.
- \*High-speed switching
- \*High allowable power dissipation.



\*Pb-free plating product number: 2SA2016L

#### ■ ORDERING INFORMATION

Order Number		Package	Pin Assignment			Packing
Normal	Lead Free Plating		1	2	3	
2SA2016-AB3-R	2SA2016L-AB3-R	SOT-89	B	C	E	Tape Reel

<p>2SA2016L-AB3-R</p> <p>(1) Packing Type</p> <p>(2) Package Type</p> <p>(3) Lead Plating</p>	<p>(1) R: Tape Reel</p> <p>(2) AB3: SOT-89</p> <p>(3) L: Lead Free Plating Blank: Pb/Sn</p>
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■ ABSOLUTE MAXIMUM RATINGS (Ta=25°C)

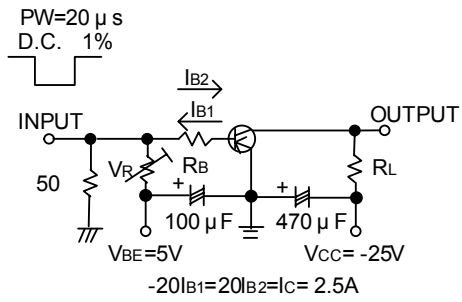
PARAMETER	SYMBOL	RATINGS	UNIT
Collector-Base Voltage	$V_{CBO}$	-50	V
Collector-Emitter Voltage	$V_{CEO}$	-50	V
Emitter-Base Voltage	$V_{EBO}$	-6	V
Collector Dissipation Mounted on a ceramic board (250mm <sup>2</sup> *0.8mm)	$P_c$	1.3	W
Collector Dissipation (Tc=25°C)	$P_c$	3.5	W
Collector Current	$I_c$	-7	A
Collector Current	$I_{cp}$	-10	A
Base Current	$I_B$	-1.2	A
Junction Temperature	$T_J$	150	°C
Storage Temperature	$T_{STG}$	-55 to +150	°C

Note Absolute maximum ratings are those values beyond which the device could be permanently damaged. Absolute maximum ratings are stress ratings only and functional device operation is not implied.

■ ELECTRICAL CHARACTERISTICS (Tc=25 )

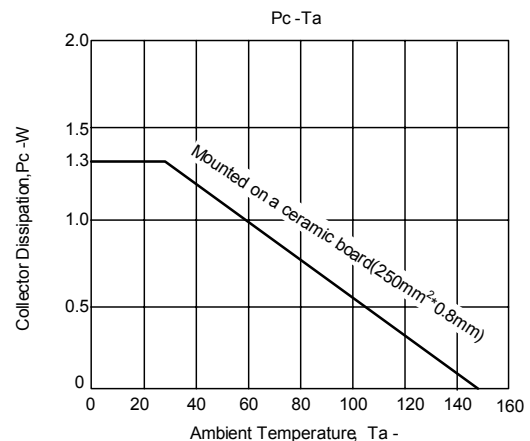
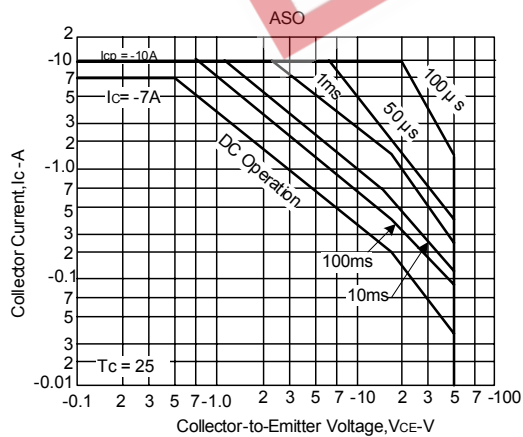
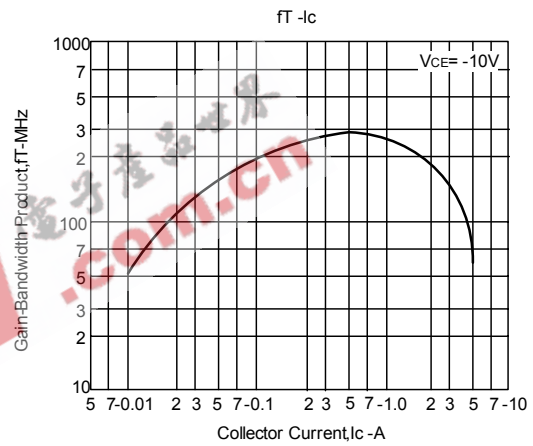
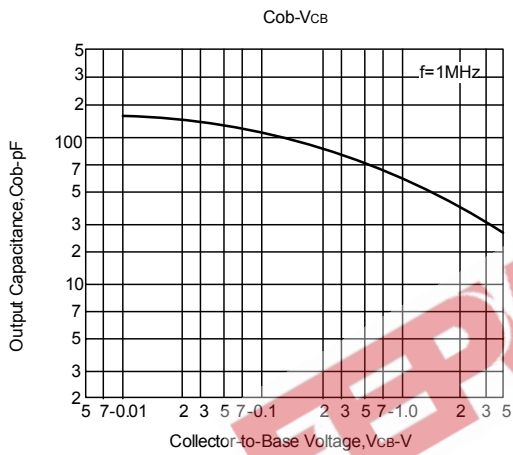
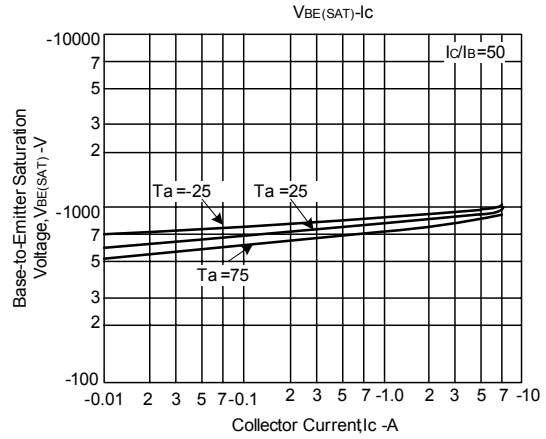
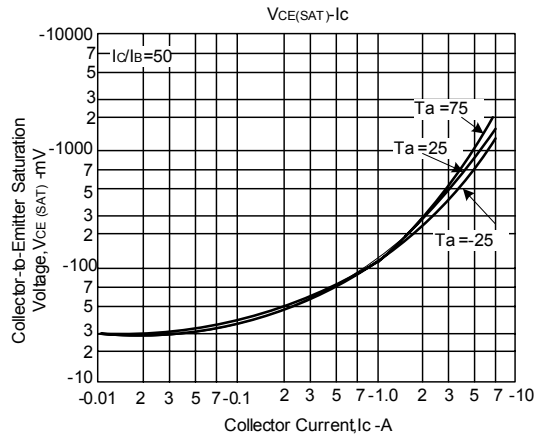
PARAMETER	SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT
Collector-to-Base Breakdown Voltage	$BV_{CBO}$	$I_c = -10\mu A, I_E = 0$	-50			V
Collector-to- Emitter Breakdown Voltage	$BV_{CEO}$	$I_c = -1mA, R_{BE} = \infty$	-50			V
Emitter-to-Base Breakdown Voltage	$BV_{EBO}$	$I_c = 0, I_E = -10\mu A$	-6			V
Collector Cut-Off Current	$I_{CBO}$	$V_{CB} = -40V, I_E = 0$			-0.1	$\mu A$
Emitter Cut-Off Current	$I_{EBO}$	$V_{EB} = -4V, I_C = 0$			-0.1	$\mu A$
DC Current Gain	$h_{FE}$	$V_{CE} = -2V, I_c = -500mA$	200		560	
Collector-Emitter Saturation Voltage	$V_{CE(SAT)}$	$I_c = -3.5A, I_B = -175mA$		-0.23	-0.39	V
		$I_c = -2A, I_B = -40mA$		-0.24	-0.40	V
Base-Emitter Saturation Voltage	$V_{BE(SAT)}$	$I_c = -2A, I_B = -40mA$		-0.83	-1.2	V
Gain Bandwidth Product	$f_T$	$V_{CE} = -10V, I_c = -500mA$		290		MHz
Output Capacitance	$C_{ob}$	$V_{CB} = -10V, f = 1MHz$		50		pF
Turn-on Time	$t_{ON}$	See specified Test Circuit		40		ns
Storage Time	$t_{STG}$	See specified Test Circuit		225		ns
Fall Time	$t_F$	See specified Test Circuit		25		ns

## SWITCHING TIME TEST CIRCUIT

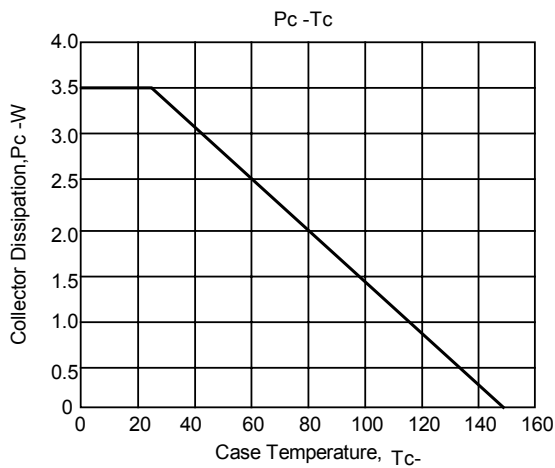
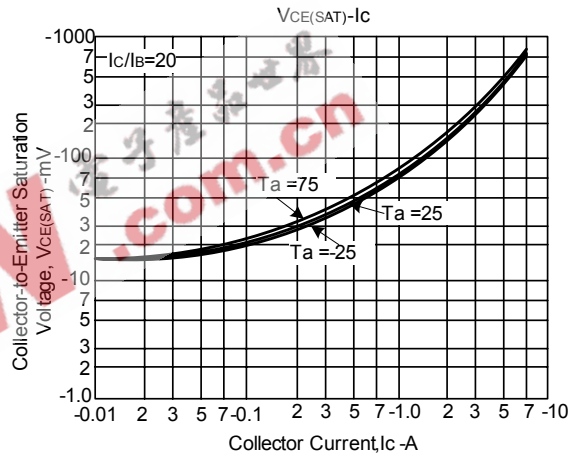
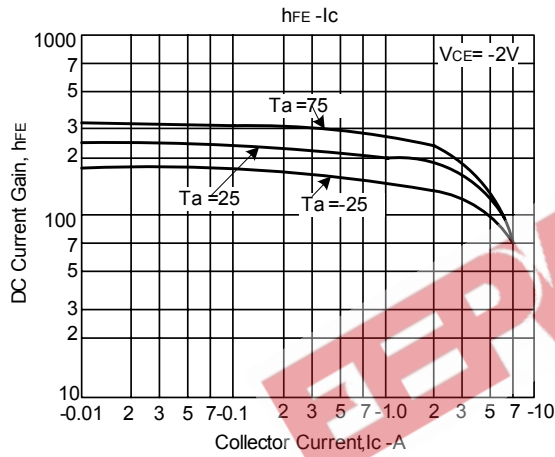
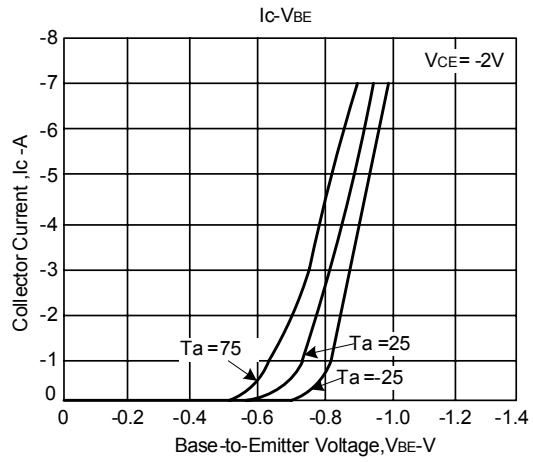
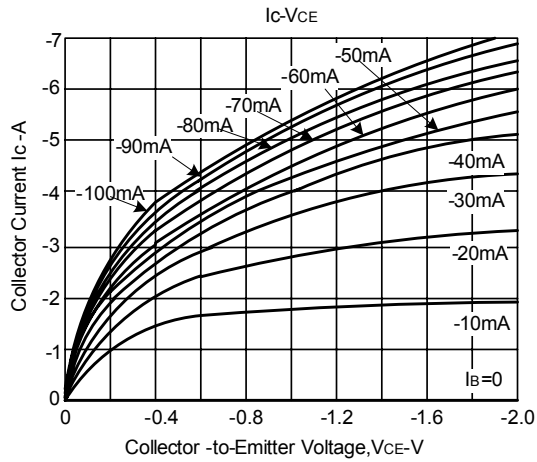


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## TYPICAL CHARACTERISTICS



■ TYPICAL CHARACTERISTICS(Cont.)



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