



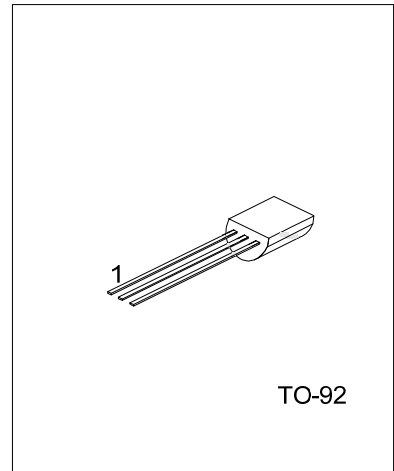
MPSA06

NPN SILICON TRANSISTOR

NPN TRANSISTOR

■ FEATURES

- * Collector-emitter voltage: $V_{CE0}=80V$
- * Collector dissipation: $P_D=625mW$



■ ORDERING INFORMATION

Ordering Number		Package	Pin Assignment			Packing
Lead Free	Halogen Free		1	2	3	
MPSA06L-T92-B	MPSA06G-T92-B	TO-92	E	B	C	Tape Box
MPSA06L-T92-K	MPSA06G-T92-K	TO-92	E	B	C	Bulk

<p>MPSA06L-T92-B</p> <p>(1)Packing Type</p> <p>(2)Package Type</p> <p>(3)Lead Free</p>	<p>(1) B: Tape Box, K: Bulk</p> <p>(2) T92: TO-92</p> <p>(3) G:Halogen Free, L: Lead Free</p>
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■ ABSOLUTE MAXIMUM RATING ($T_A=25^{\circ}\text{C}$, unless otherwise specified)

PARAMETER	SYMBOL	RATINGS	UNIT
Collector-Base Voltage	V_{CBO}	80	V
Collector-Emitter Voltage	V_{CEO}	80	V
Emitter-Base Voltage	V_{EBO}	4	V
Collector Current - Continuous	I_C	500	mA
Total device Dissipation, @ $T_A=25^{\circ}\text{C}$ Derate above 25°C	P_D	625 5	mW mW/ $^{\circ}\text{C}$
Total device Dissipation, @ $T_C=25^{\circ}\text{C}$ Derate above 25°C	P_D	1500 12	mW mW/ $^{\circ}\text{C}$
Junction Temperature	T_J	+125	$^{\circ}\text{C}$
Storage Temperature	T_{STG}	-55 ~ +150	$^{\circ}\text{C}$

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.

■ THERMAL CHARACTERISTICS

PARAMETER	SYMBOL	MIN	TYP	MAX	UNIT
Junction-to-Ambient	θ_{JA}			200	$^{\circ}\text{C}/\text{W}$
Junction-to-Case	θ_{JC}			83.3	

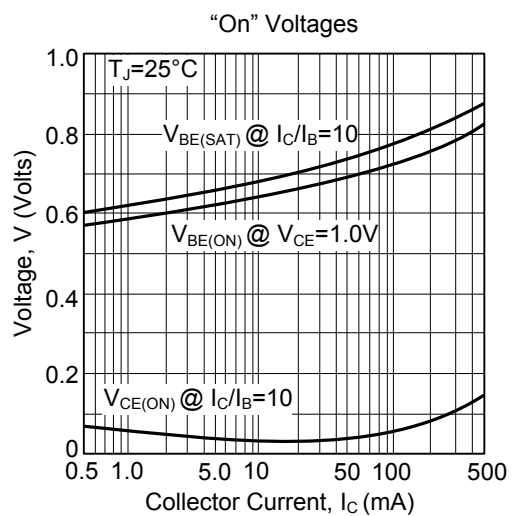
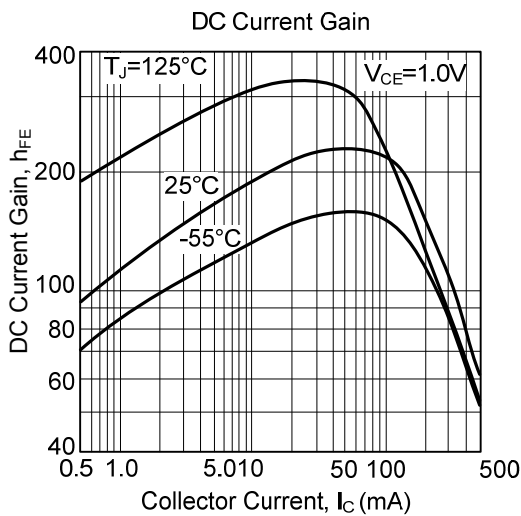
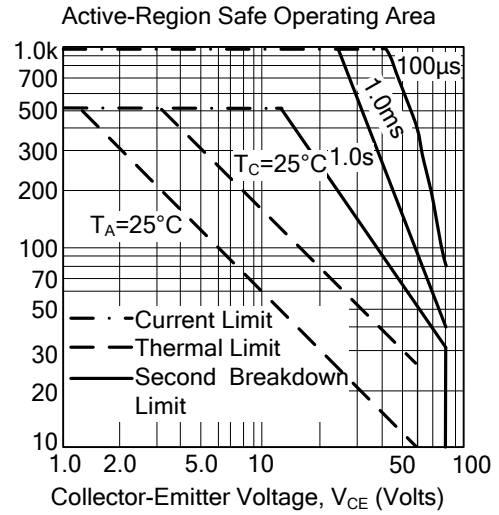
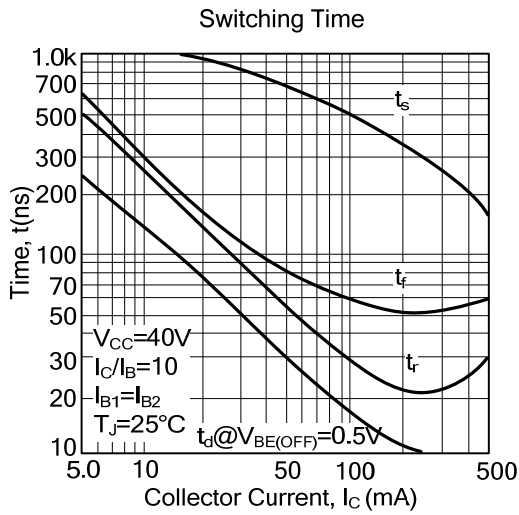
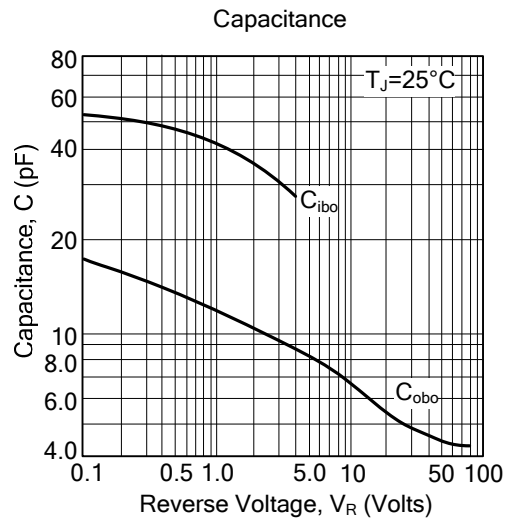
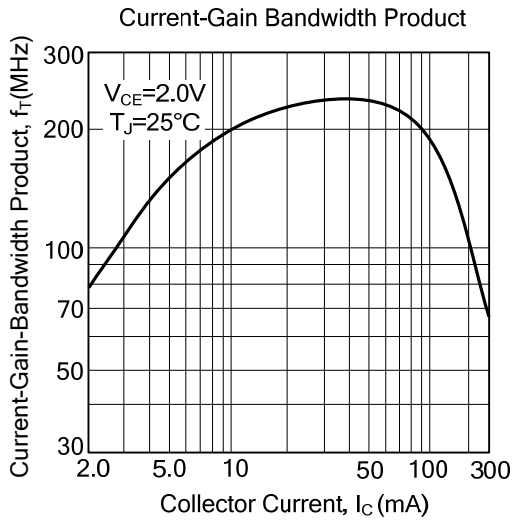
■ ELECTRICAL CHARACTERISTICS ($T_a=25^{\circ}\text{C}$, unless otherwise specified)

PARAMETER	SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT
OFF CHARACTERISTICS						
Collector-Emitter Breakdown Voltage (Note 1)	BV_{CEO}	$I_C=1.0\text{mA}$, $I_B=0$	80			V
Emitter-Base Breakdown Voltage	BV_{EBO}	$I_E=100\mu\text{A}$, $I_C=0$	4			V
Collector Cutoff Current	I_{CEO}	$V_{CE}=60\text{V}$, $I_B=0$			0.1	μA
Collector Cutoff Current	I_{CBO}	$V_{CB}=80\text{V}$, $I_E=0$			0.1	μA
ON CHARACTERISTICS						
Dc Current Gain	h_{FE}	$I_C=10\text{mA}$, $V_{CE}=1\text{V}$	100			
		$I_C=100\text{mA}$, $V_{CE}=1\text{V}$	100			
Collector-Emitter Saturation Voltage	$V_{CE(SAT)}$	$I_C=100\text{mA}$, $I_B=10\text{mA}$			0.25	V
Base-Emitter On Voltage	$V_{BE(ON)}$	$I_C=100\text{mA}$, $V_{CE}=1\text{V}$			1.2	V
SMALL-SIGNAL CHARACTERISTICS						
Current Gain Bandwidth Product (Note 2)	f_T	$I_C=10\text{mA}$, $V_{CE}=2\text{V}$, $f=100\text{MHz}$	100			MHz

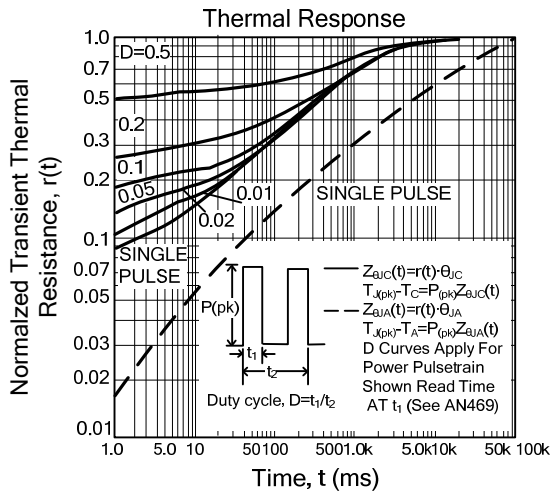
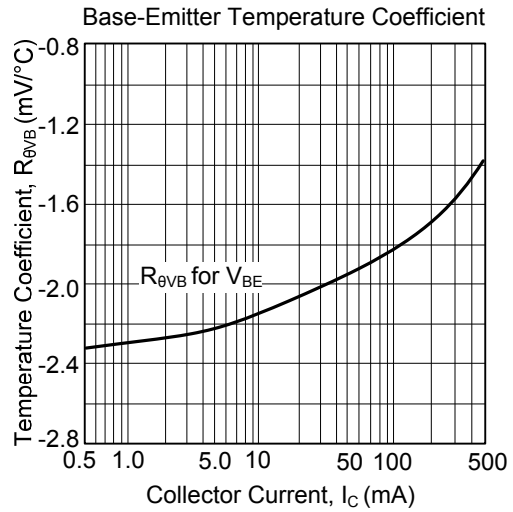
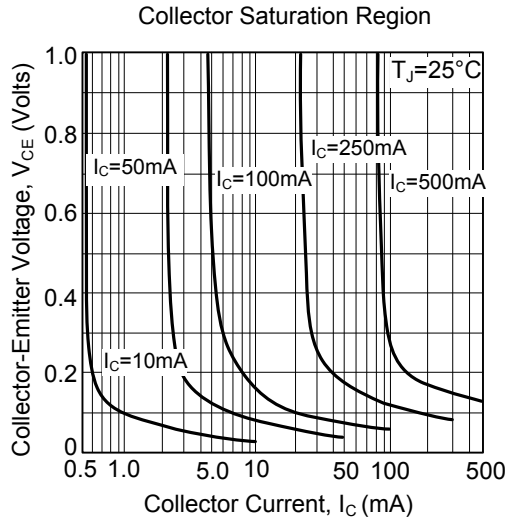
Note 1. Pulse test: $PW \leq 300\mu\text{s}$, Duty Cycle $\leq 2\%$

2. f_T is defined as the frequency at which $|h_{fe}|$ extrapolates to unity.

TYPICAL CHARACTERISTICS



■ TYPICAL CHARACTERISTICS(Cont.)



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