



UNISONIC TECHNOLOGIES CO., LTD

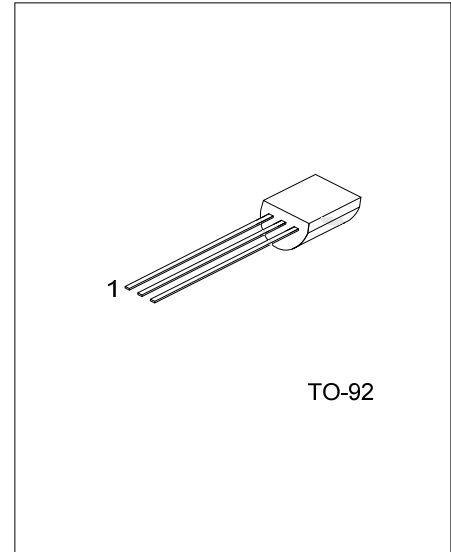
MPSA56

PNP SILICON TRANSISTOR

PNP MPSA56

FEATURES

- * Collector-Emitter Voltage: $V_{CE0}=80V$
- * Collector Dissipation: $P_D=625mW$



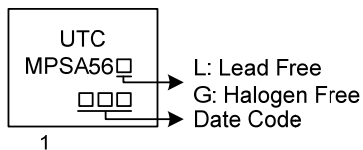
ORDERING INFORMATION

Ordering Number		Package	Pin Assignment			Packing
Lead Free	Halogen Free		1	2	3	
MPSA56L-T92-B	MPSA56G-T92-B	TO-92	E	B	C	Tape Box
MPSA56L-T92-K	MPSA56G-T92-K	TO-92	E	B	C	Bulk

Note: Pin Assignment: E: Emitter B: Base C: Collector

<p>MPSA56G-T92-B</p> <p>(1) Packing Type</p> <p>(2) Package Type</p> <p>(3) Green Package</p>	<p>(1) B: Tape Box, K: Bulk</p> <p>(2) T92: TO-92</p> <p>(3) G: Halogen Free and Lead Free, L: Lead Free</p>
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MARKING



■ 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	$T_A=25^\circ\text{C}$	P_D	625	mW
Linear Derating Factor above			5	mW/ $^\circ\text{C}$
Total device Dissipation	$T_C=25^\circ\text{C}$	P_D	1500	mW
Linear Derating Factor above			12	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 DATA

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

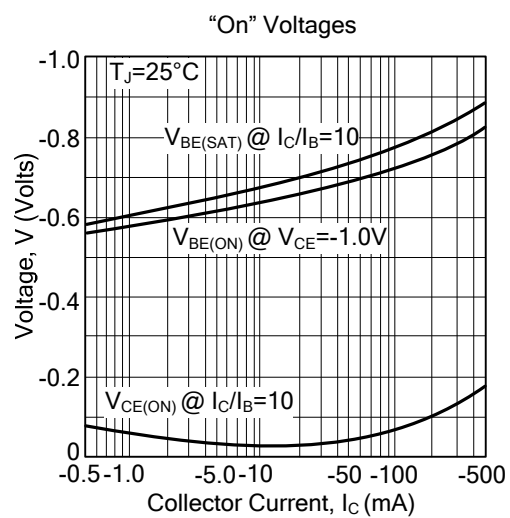
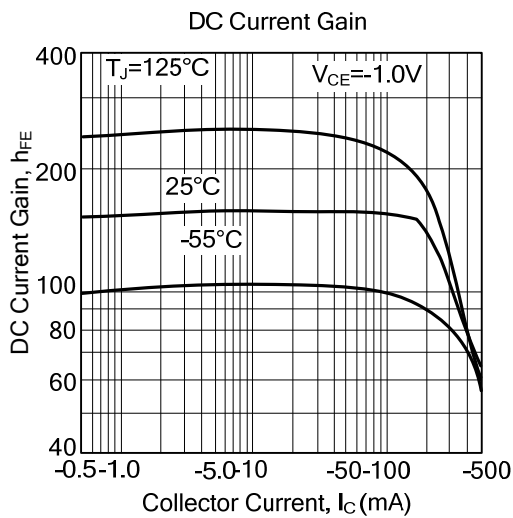
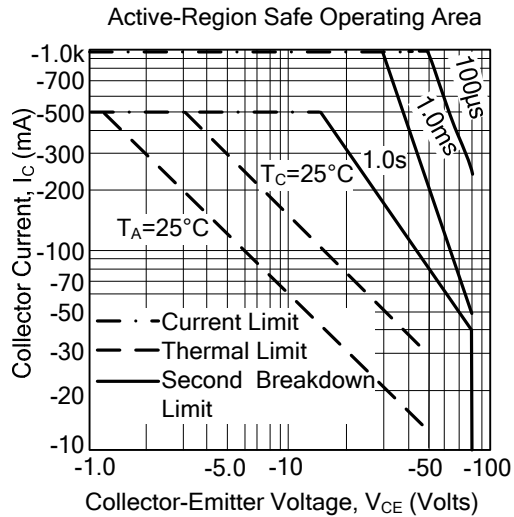
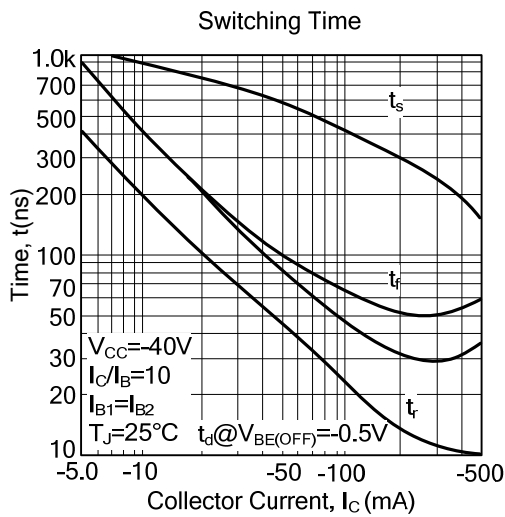
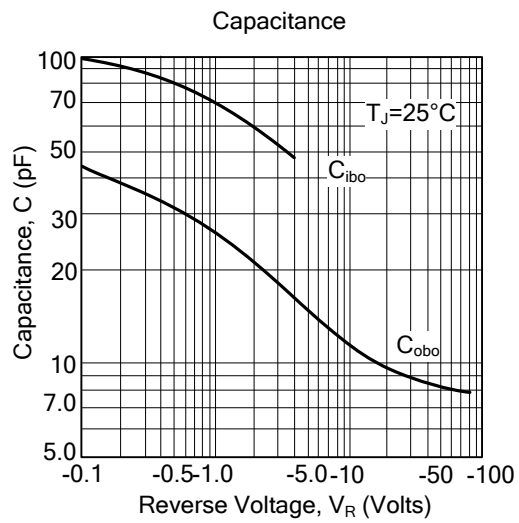
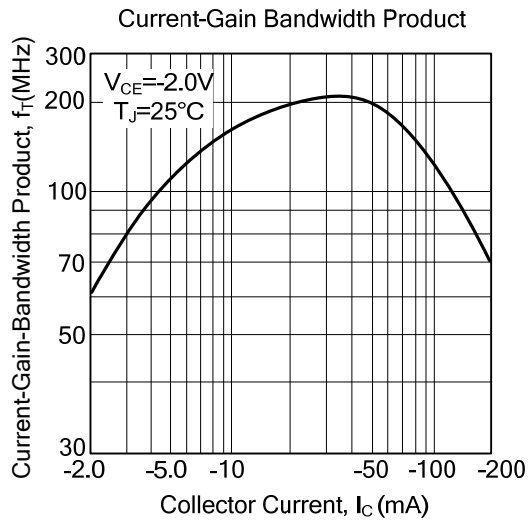
■ ELECTRICAL CHARACTERISTICS ($T_A=25^\circ\text{C}$, unless otherwise specified)

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	$I_C=-100\text{mA}, V_{CE}=-1\text{V}, f=100\text{MHz}$	50			MHz

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

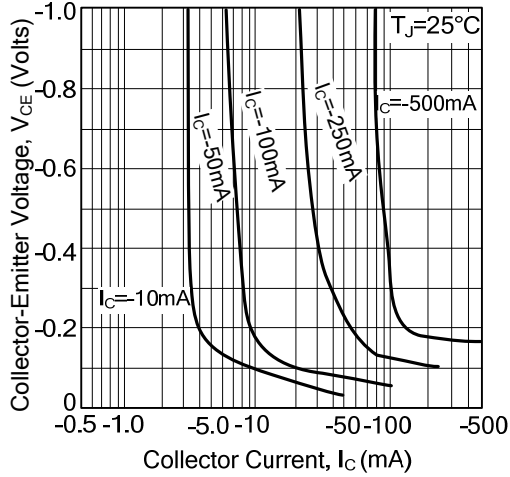
2. f_T is defined as the frequency at which I_{hfe} extrapolates to unity.

TYPICAL CHARACTERISTICS

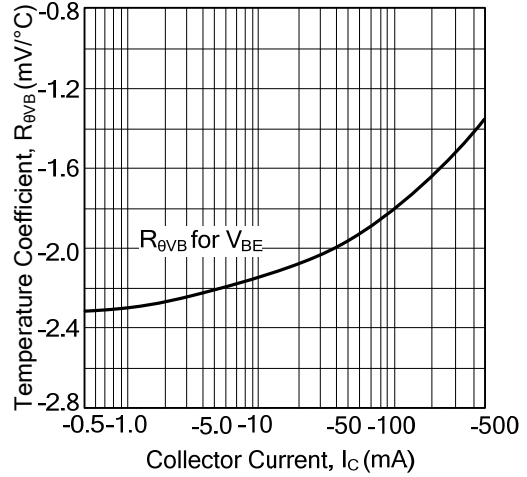


■ TYPICAL CHARACTERISTICS (Cont.)

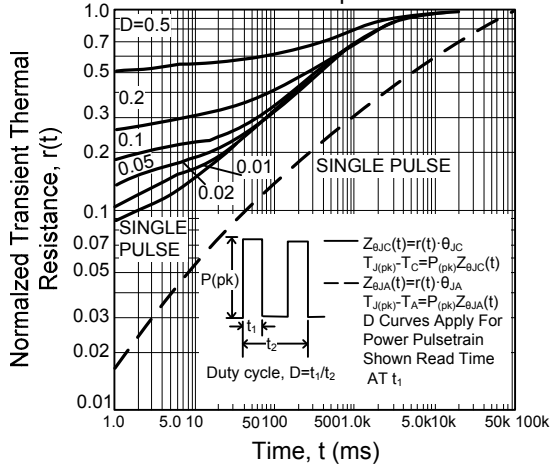
Collector Saturation Region



Base-Emitter Temperature Coefficient



Thermal Response



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