



MPSA92/93

PNP SILICON TRANSISTOR

HIGH VOLTAGE PNP TRANSISTOR

DESCRIPTION

The UTC **MPSA92/93** are high voltage PNP transistors, designed for telephone signal switching and for high voltage amplifier.

FEATURES

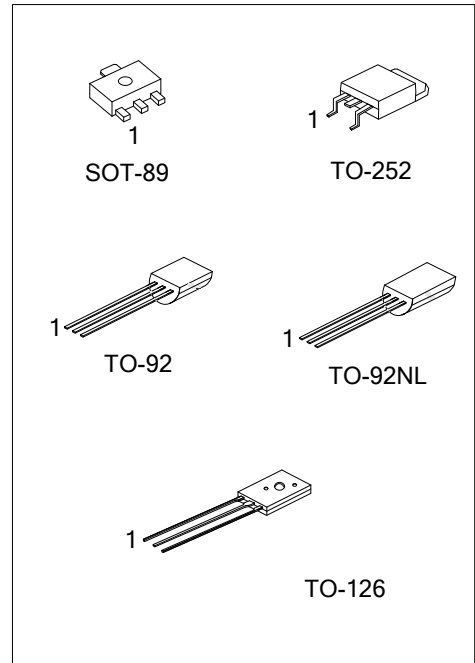
* High Collector-Emitter voltage:

$V_{CE0} = -300V$ (UTC **MPSA92**)

$V_{CE0} = -200V$ (UTC **MPSA93**)

* Collector Dissipation:

$P_C (max.) = 625mW$



ORDERING INFORMATION

Ordering Number		Package	Pin Assignment			Packing
Lead Free	Halogen Free		1	2	3	
MPSA92L-AB3-R	MPSA92G-AB3-R	SOT-89	B	C	E	Tape Reel
MPSA92L-TN3-R	MPSA92G-TN3-R	TO-252	B	C	E	Tape Reel
MPSA92L-T60-K	MPSA92G-T60-K	TO-126	E	C	B	Bulk
MPSA92L-T92-B	MPSA92G-T92-B	TO-92	E	B	C	Tape Box
MPSA92L-T92-K	MPSA92G-T92-K	TO-92	E	B	C	Bulk
MPSA92L-T9N-B	MPSA92G-T9N-B	TO-92NL	E	C	B	Tape Box
MPSA92L-T9N-K	MPSA92G-T9N-K	TO-92NL	E	C	B	Bulk
MPSA93L-AB3-R	MPSA93G-AB3-R	SOT-89	B	C	E	Tape Reel
MPSA93L-TN3-R	MPSA93G-TN3-R	TO-252	B	C	E	Tape Reel
MPSA93L-T92-B	MPSA93G-T92-B	TO-92	E	B	C	Tape Box
MPSA93L-T92-K	MPSA93G-T92-K	TO-92	E	B	C	Bulk

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

<p>MPSA92G-AB3-R</p> <p>(1) Packing Type</p> <p>(2) Package Type</p> <p>(3) Green Package</p>	<p>(1) B: Tape Box, K: Bulk, R: Tape Reel</p> <p>(2) AB3: SOT-89, TN3: TO-252, T60: TO-126 T92: TO-92, T9N: TO-92NL</p> <p>(3) G: Halogen Free and Lead Free, L: Lead Free</p>
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MARKING

Package	MPSA92	MPSA93
SOT-89	<p> Date Code L: Lead Free G: Halogen Free </p>	<p> Date Code L: Lead Free G: Halogen Free </p>
TO-252	<p> L: Lead Free G: Halogen Free Date Code </p>	<p> L: Lead Free G: Halogen Free Date Code </p>
TO-126	<p> Date Code L: Lead Free G: Halogen Free </p>	-
TO-92	<p> L: Lead Free G: Halogen Free Date Code </p>	<p> L: Lead Free G: Halogen Free Date Code </p>
TO-92NL	<p> L: Lead Free G: Halogen Free Date Code </p>	-

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■ ABSOLUTE MAXIMUM RATING (T_A=25°C unless otherwise specified)

PARAMETER		SYMBOL	RATINGS	UNIT
Collector-Base Voltage	MPSA92	V _{CBO}	-300	V
	MPSA93		-200	V
Collector-Emitter Voltage	MPSA92	V _{CEO}	-300	V
	MPSA93		-200	V
Emitter-Base Voltage		V _{EBO}	-5	V
Base Current		I _B	-100	mA
Collector Current		I _C	-500	mA
Collector Dissipation	SOT-89	P _C	0.5	W
	TO-252		1.1	W
	TO-126		1	W
	TO-92/TO-92NL		0.62	W
Junction Temperature		T _J	150	°C
Storage Temperature		T _{STG}	-55~ +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.

■ THERMAL CHARACTERISTICS

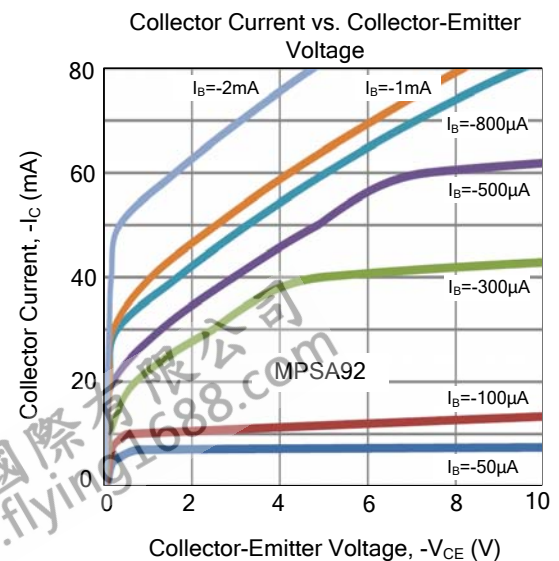
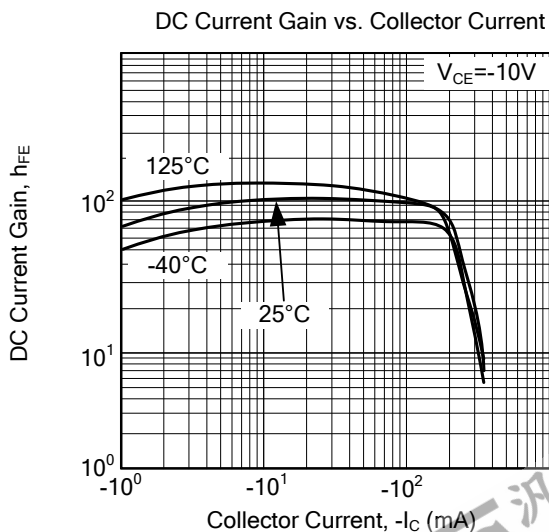
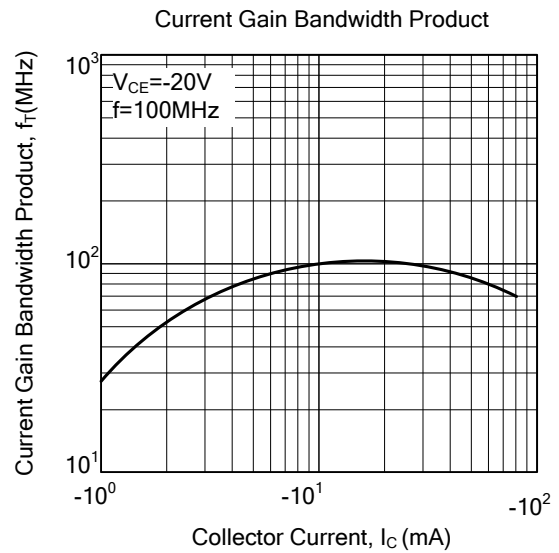
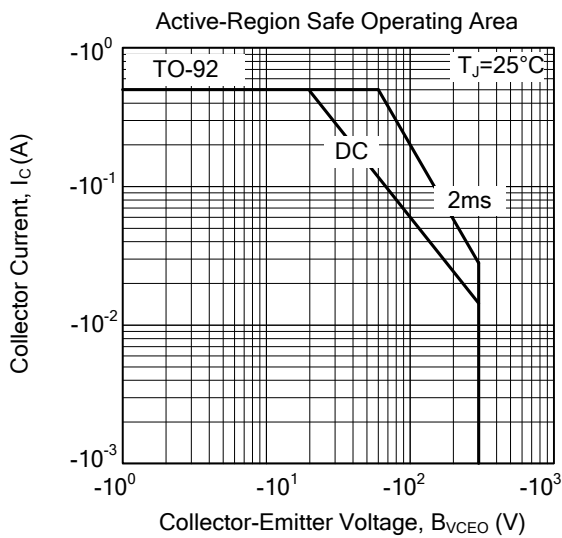
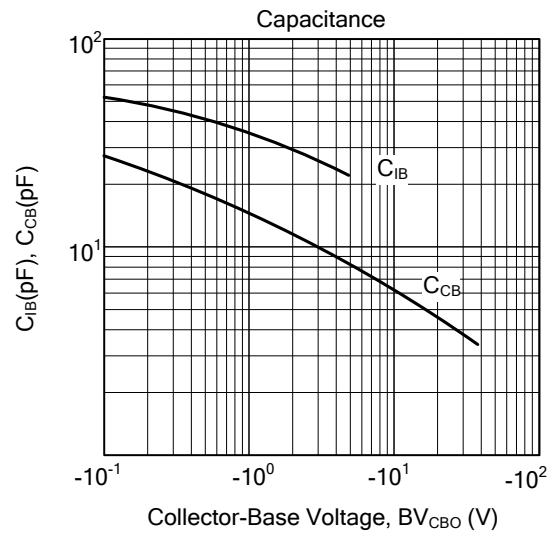
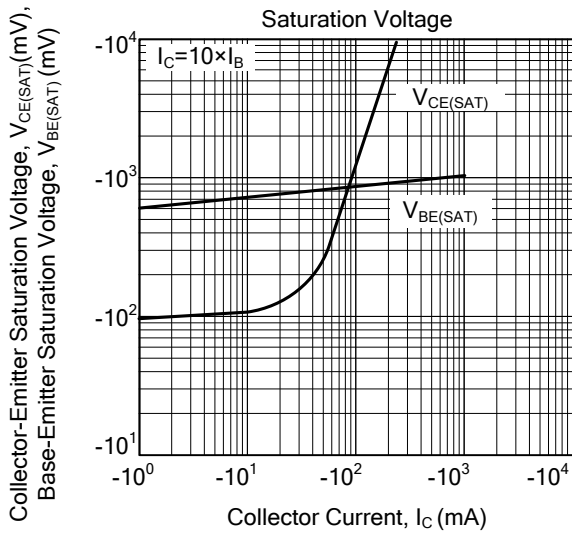
PARAMETER		SYMBOL	RATINGS	UNIT
Junction to Ambient	SOT-89	θ _{JA}	250	°C/W
	TO-252		110	°C/W
	TO-126		125	°C/W
	TO-92/TO-92NL		200	°C/W
Junction to Case	SOT-89	θ _{JC}	43	°C/W
	TO-252		8.3	°C/W
	TO-126		12.5	°C/W
	TO-92/TO-92NL		83.3	°C/W

■ ELECTRICAL CHARACTERISTICS (T_A=25°C, unless otherwise specified)

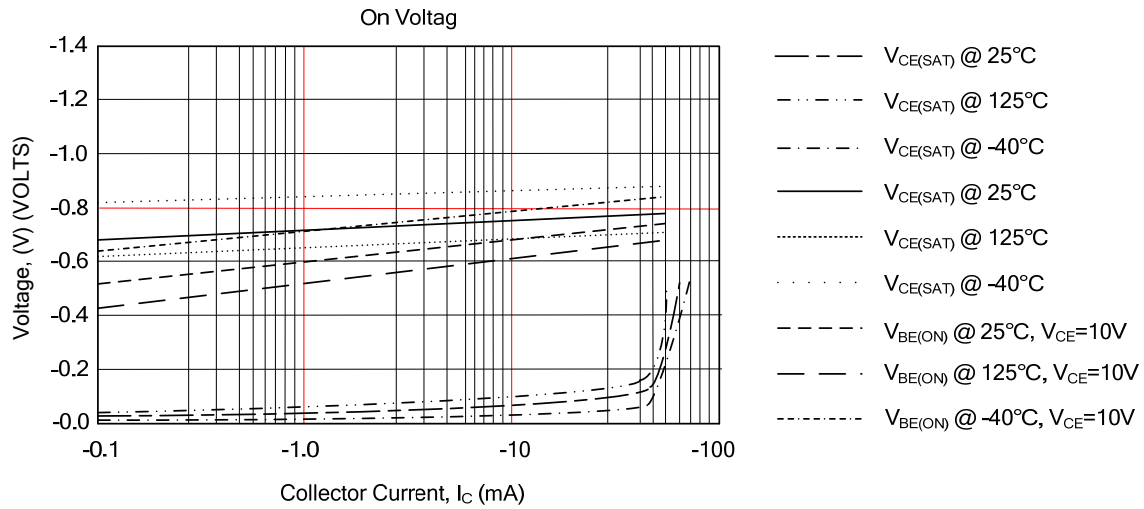
PARAMETER		SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT
OFF CHARACTERISTICS							
Collector-Base Breakdown Voltage	MPSA92	BV _{CBO}	I _C =-100μA, I _E =0	-300			V
	MPSA93			-200			V
Collector-Emitter Breakdown Voltage	MPSA92	BV _{CEO}	I _C =-1mA, I _B =0	-300			V
	MPSA93			-200			V
Emitter-Base Breakdown Voltage		BV _{EBO}	I _E =-100μA, I _C =0	-5			V
Collector Cut-Off Current	MPSA92	I _{CBO}	V _{CB} =-200V, I _E =0			-0.25	μA
	MPSA93					-0.25	μA
Emitter Cut-Off Current		I _{EBO}	V _{EB} =-3V, I _C =0			-0.10	μA
ON CHARACTERISTICS							
DC Current Gain(note)		h _{FE}	V _{CE} =-10V, I _C =-1mA	60			
			V _{CE} =-10V, I _C =-10mA	80			
			V _{CE} =-10V, I _C =-30mA	80			
Collector-Emitter Saturation Voltage		V _{CE(SAT)}	I _C =-20mA, I _B =-2mA			-0.5	V
Base-Emitter Saturation Voltage		V _{BE(SAT)}	I _C =-20mA, I _B =-2mA			-0.90	V
SMALL SIGNAL CHARACTERISTICS							
Current Gain Bandwidth Product		f _T	V _{CE} =-20V, I _C =-10mA, f=100MHz	50			MHz
Output Capacitance	MPSA92	C _{ob}	V _{OB} =-20V, I _E =0, f=1MHz			6	pF
	MPSA93					8	pF

Note: Pulse test: P_W<300μs, Duty Cycle<2%, V_{CE(SAT)}<200mV

TYPICAL CHARACTERISTICS



■ TYPICAL CHARACTERISTICS (Cont.)



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