



MPSA13

NPN EPITAXIAL SILICON TRANSISTOR

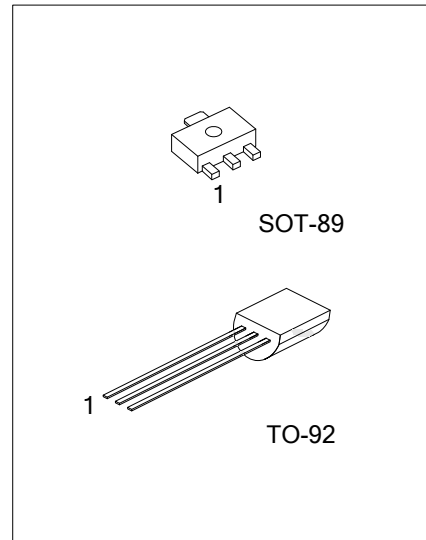
DARLINGTON TRANSISTOR

DESCRIPTION

The UTC MPSA13 is a Darlington transistor.

FEATURES

* Collector-Emitter Voltage: $V_{CES} = 30V$



ORDERING INFORMATION

Order Number		Package	Pin Assignment			Packing
Lead Free	Halogen Free		1	2	3	
MPSA13L-AB3-A-R	MPSA13G-AB3-A-R	SOT-89	E	C	B	Tape Reel
MPSA13L-AB3-F-R	MPSA13G-AB3-F-R	SOT-89	B	C	E	Tape Reel
MPSA13L-T92-B	MPSA13G-T92-B	TO-92	E	B	C	Tape Box
MPSA13L-T92-K	MPSA13G-T92-K	TO-92	E	B	C	Bulk
MPSA13L-T92-A-B	MPSA13G-T92-A-B	TO-92	E	C	B	Tape Box
MPSA13L-T92-A-K	MPSA13G-T92-A-K	TO-92	E	C	B	Bulk

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

<p>MPSA13G-AB3-A-R</p> <p>(1) Packing Type (2) Pin Assignment (3) Package Type (4) Green Package</p>	<p>(1) B: Tape Box, K: Bulk, R: Tape Reel (2) refer to Pin Assignment (3) AB3: SOT-89, T92: TO-92 (4) G: Halogen Free and Lead Free, L: Lead Free</p>
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MARKING

SOT-89	TO-92
<p>Pin Code Date Code L: Lead Free G: Halogen Free</p>	<p>UTC MPSA13 Pin Code L: Lead Free G: Halogen Free Date Code</p>

■ **ABSOLUTE MAXIMUM RATING** ($T_A=25^{\circ}\text{C}$, unless otherwise specified)

PARAMETER	SYMBOL	RATINGS	UNIT
Collector-Base Voltage	V_{CBO}	30	V
Collector-Emitter Voltage	V_{CES}	30	V
Emitter-Base Voltage	V_{EBO}	10	V
Collector Current	I_C	500	mA
Collector Dissipation	P_C	625	mW
Junction Temperature	T_J	+150	$^{\circ}\text{C}$
Storage Temperature	T_{STG}	-55 ~ +150	$^{\circ}\text{C}$

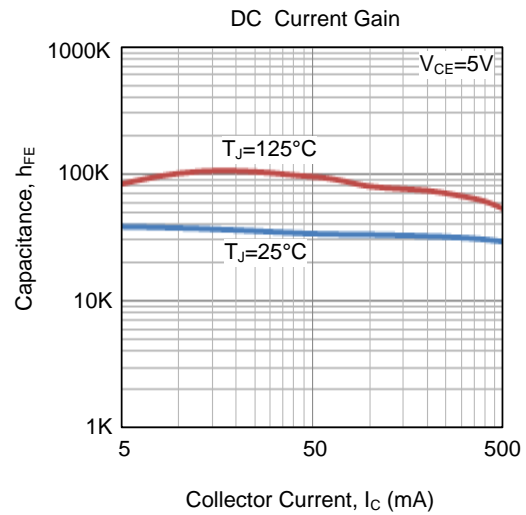
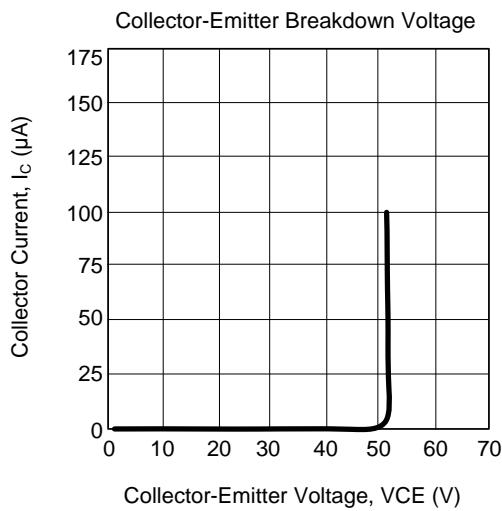
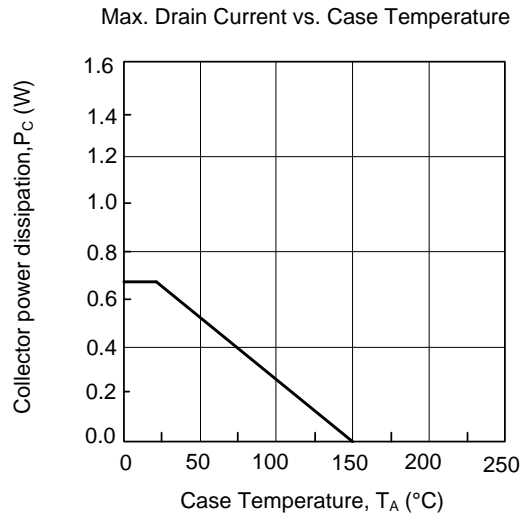
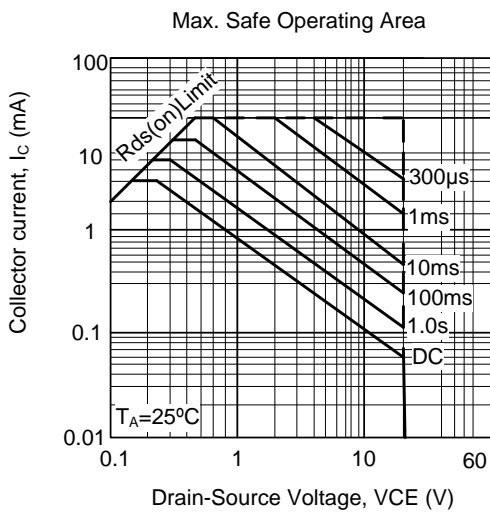
Note: Absolute maximum ratings are those values beyond which the device could be permanently damaged. Absolute maximum ratings are stress ratings only and functional device operation is not implied.

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

PARAMETER	SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT
Collector-Emitter Breakdown Voltage	BV_{CES}	$I_C=100\mu\text{A}, I_B=0$	30			V
Collector Cut-Off Current	I_{CBO}	$V_{CB}=30\text{V}, I_E=0$			100	nA
Emitter Cut-Off Current	I_{EBO}	$V_{EB}=10\text{V}, I_C=0$			100	nA
DC Current Gain	h_{FE}	$V_{CE}=5\text{V}, I_C=10\text{mA}$	5000			
		$V_{CE}=5\text{V}, I_C=100\text{mA}$	10000			
Collector-Emitter Saturation Voltage	$V_{CE(SAT)}$	$I_C=100\text{mA}, I_B=0.1\text{mA}$			1.5	V
Base-Emitter on Voltage	$V_{BE(ON)}$	$V_{CE}=5\text{V}, I_C=100\text{mA}$			2.0	V
Current Gain Bandwidth Product	f_T	$V_{CE}=5\text{V}, I_C=10\text{mA}, f=100\text{MHz}$	125			MHz

Note: Pulse test: Pulse Width $\leq 300\mu\text{s}$, Duty Cycle=2%

■ TYPICAL CHARACTERISTICS



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