

# UTC MMBTA13 NPN EPITAXIAL SILICON TRANSISTOR

## DARLINGTON TRANSISTOR

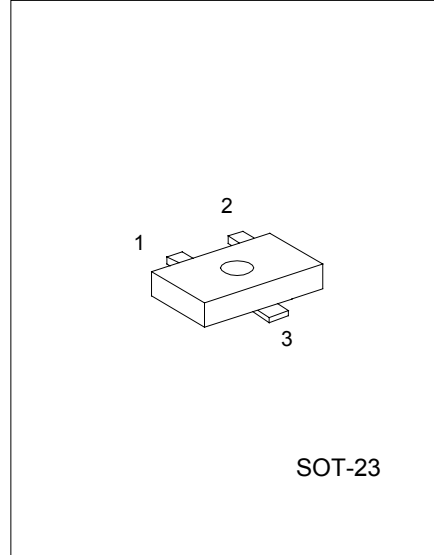
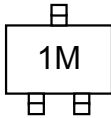
### DESCRIPTION

The UTC MMBTA13 is a Darlington transistor.

### FEATURES

- \*Collector-Emitter Voltage:  $V_{CES} = 30V$
- \*Collector Dissipation:  $P_c (mas) = 350 mW$

### MARKING



SOT-23

1: EMITTER 2: BASE 3: COLLECTOR

### ABSOLUTE MAXIMUM RATINGS ( $T_a=25^\circ C$ )

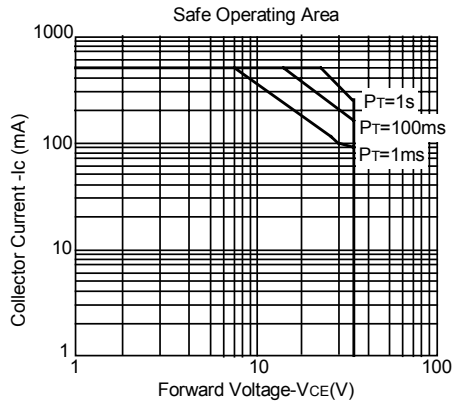
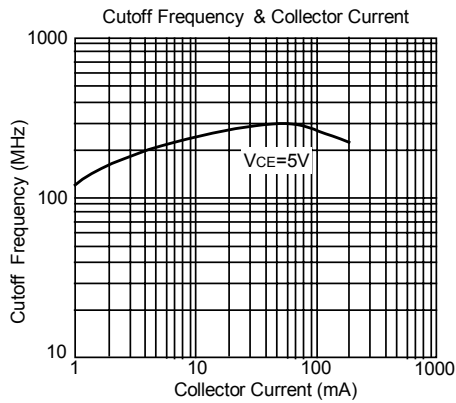
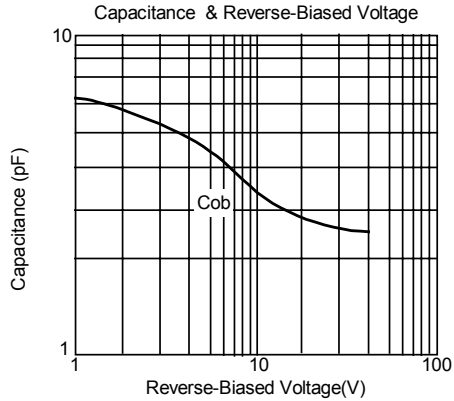
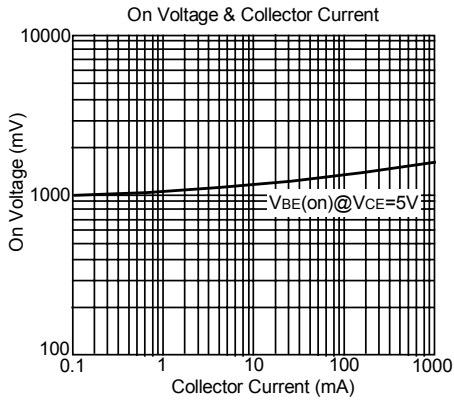
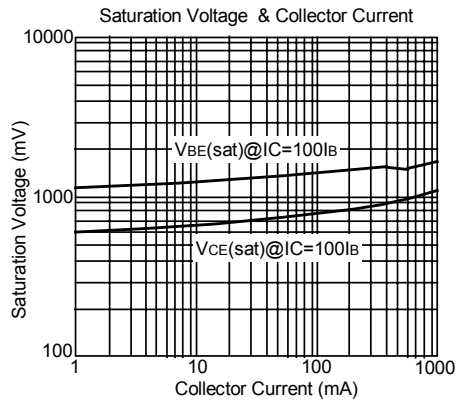
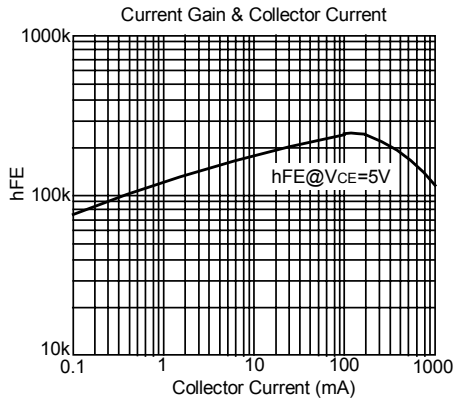
PARAMETER	SYMBOL	VALUE	UNIT
Collector-Base Voltage	$V_{CBO}$	30	V
Collector-Emitter Voltage	$V_{CES}$	30	V
Emitter-Base Voltage	$V_{EBO}$	10	V
Collector Dissipation	$P_c$	350	mW
Collector Current	$I_c$	500	mA
Junction Temperature	$T_j$	150	$^\circ C$
Storage Temperature	$T_{STG}$	-55 ~ +150	$^\circ C$

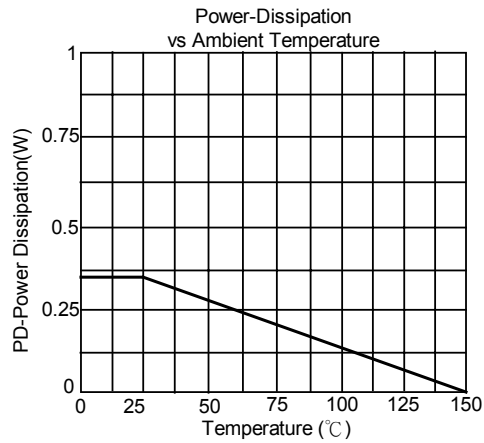
### ELECTRICAL CHARACTERISTICS ( $T_a=25^\circ C$ , unless otherwise specified)

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

Pulse test: Pulse Width<300 $\mu s$ , Duty Cycle=2%

TYPICAL CHARACTERISTICS





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