

# UTC2SD879 NPN EPITAXIAL SILICON TRANSISTOR

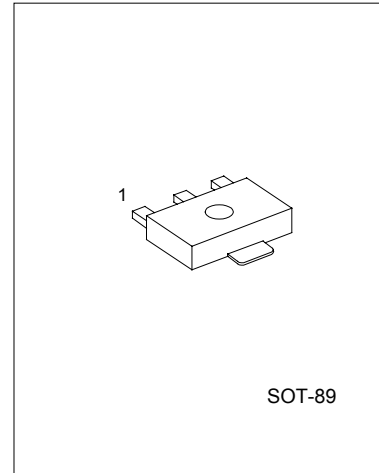
## 1.5V, 3V STROBE APPLICATIONS

### DESCRIPTION

The UTC 2SD879 is a NPN epitaxial silicon transistor, designed for 1.5V and 3V strobe applications.

### FEATURES

- \*In applications where two NiCd batteries are used to provide 2.4V, two 2SD879s are used.
- \*The charge time is approximately 1 second faster than that of germanium transistors.
- \*Less power dissipation because of low Collector-to-Emitter Voltage  $V_{CE(sat)}$ , permitting more flashes of light to be emitted.
- \*Large current capacity and highly resistant to break-down.
- \*Excellent linearity of hFE in the region from low current to high current.



1:EMITTER 2:COLLECTOR 3:BASE

### ABSOLUTE MAXIMUM RATINGS ( $T_a=25^{\circ}\text{C}$ ,unless otherwise specified )

PARAMETER	SYMBOL	VALUE	UNIT
Collector-Base Voltage	$V_{CBO}$	30	V
Collector-Emitter Voltage	$V_{CEX}$	20	V
Collector-Emitter Voltage	$V_{CEO}$	10	V
Emitter-Base Voltage	$V_{EBO}$	6	V
Collector Dissipation	$P_D$	1	W
Collector Current(DC)	$I_C$	3	A
Collector Current(PULSE)	$I_{cp}$	5	A
Junction Temperature	$T_J$	150	$^{\circ}\text{C}$
Storage Temperature	$T_{STG}$	-55 ~ +150	$^{\circ}\text{C}$

Note: PULSE CONDITION -> 100 ms single pulse

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

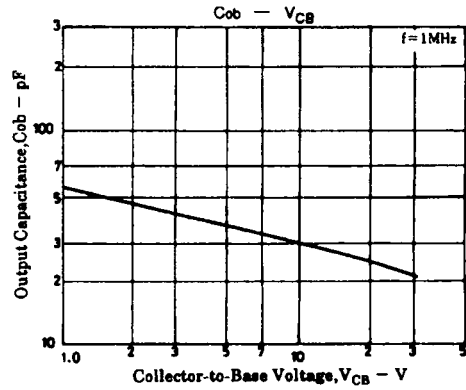
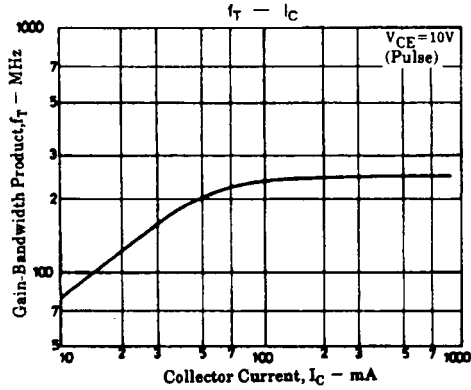
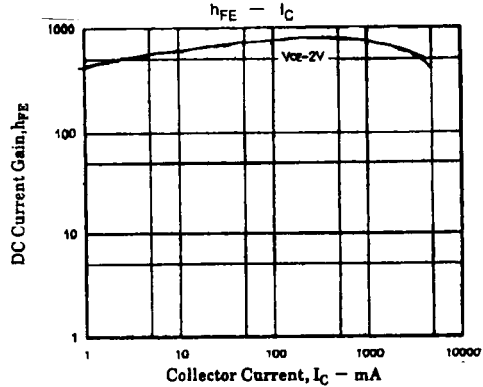
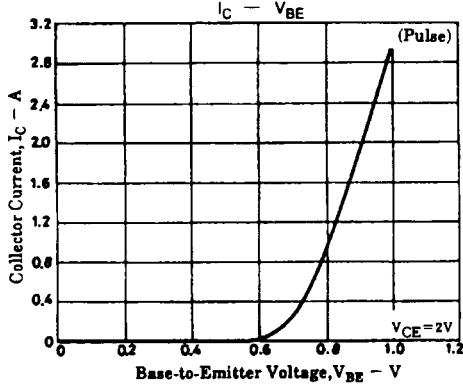
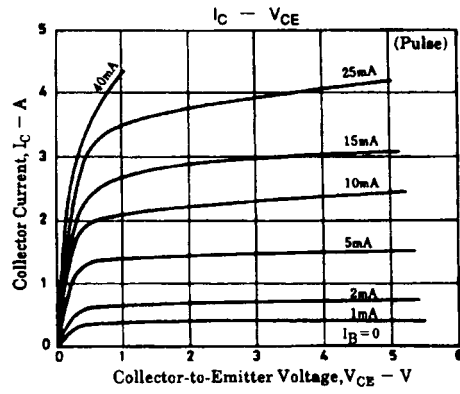
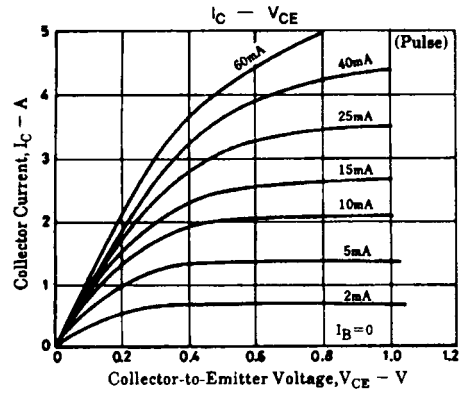
PARAMETER	SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT
Collector-Base Voltage	$V_{CBO}$	$I_C=10\mu\text{A}, I_E=0$	30			V
Collector-Emitter Voltage	$V_{CEX}$	$I_C=1\text{mA}, V_{BE}=3\text{V}$	20			V
Collector-Emitter Voltage	$V_{CEO}$	$I_C=1\text{mA}, R_{BE}=\infty$	10			V
Emitter-Base Voltage	$V_{EBO}$	$I_E=10\mu\text{A}, I_C=0$	6			V
Base-Emitter Voltage	$V_{BE}$	$V_{CE}=-1\text{V}, I_C=-2\text{A}$		0.83	1.5	V
Collector Cut-Off Current	$I_{CBO}$	$V_{CB}=20\text{V}, I_E=0$			1	$\mu\text{A}$
Emitter Cut-Off Current	$I_{EBO}$	$V_{EB}=4\text{V}, I_C=0$			1	$\mu\text{A}$
DC Current Gain	hFE	$V_{CE}=2\text{V}, I_C=3\text{A}$ (pulse)	140	210	400	
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C=3\text{A}, I_B=60\text{mA}$ (pulse)		0.3	0.4	V
Current Gain Bandwidth Product	f <sub>T</sub>	$V_{CE}=10\text{V}, I_C=50\text{mA}$		200		MHz
Output Capacitance	$C_{ob}$	$V_{CB}=10\text{V}, f=1\text{MHz}$		30		pF

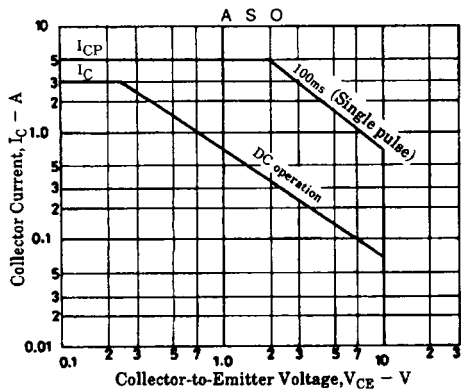
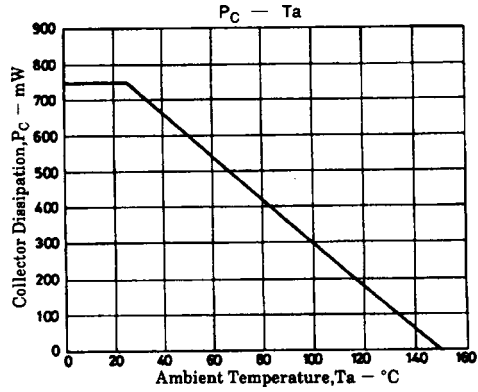
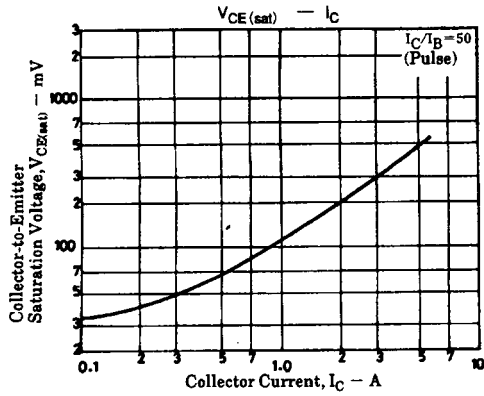
Pulse: 1mS

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