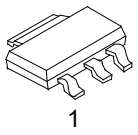
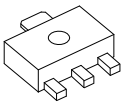
UBCX56

NPN EPITAXIAL SILICON TRANSISTOR

NPN MEDIUM POWER TRANSISTORS



SOT-223



SOT-89

■ DESCRIPTION

The UTC **UBCX56** is an NPN epitaxial silicon transistor, it uses UTC's advanced technology to provide customers high DC current gain and high current capacity.

■ FEATURES

* High Current Capacity
* High DC Current Gain

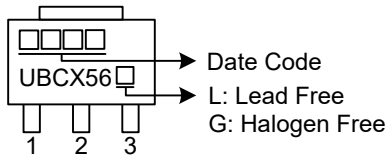
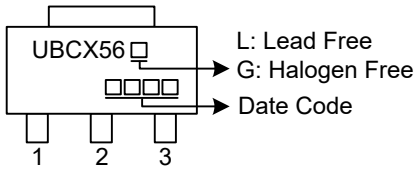
■ ORDERING INFORMATION

Ordering Number		Package	Pin Assignment			Packing
Lead Free	Halogen Free		1	2	3	
UBCX56L-xx-AA3-R	UBCX56G-xx-AA3-R	SOT-223	B	C	E	Tape Reel
UBCX56L-xx-AB3-R	UBCX56G-xx-AB3-R	SOT-89	B	C	E	Tape Reel

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

UBCX56G-xx-AA3-R (1) Packing Type (2) Package Type (3) Rank (4) Green Package	(1) R: Tape Reel (2) AA3: SOT-223, AB3: SOT-89 (3) xx: refer to Classification of h_{FE} (4) G: Halogen Free and Lead Free, L: Lead Free

■ MARKING

SOT-89	SOT-223
	

■ ABSOLUTE MAXIMUM RATINGS

PARAMETER		SYMBOL	RATINGS	UNIT
Collector-Base Voltage (open emitter)		V_{CBO}	100	V
Collector-Emitter Voltage (open base)		V_{CEO}	80	V
Emitter-Base Voltage (open collector)		V_{EBO}	5	V
Collector Current (DC)		I_C	1	A
Peak Collector Current		I_{CM}	1.5	A
Peak Base Current		I_{BM}	0.2	A
Total Power Dissipation ($T_A \leq 25°C$, Note2)	SOT-223	P_D	1.5	W
	SOT-89		1.3	W
Junction Temperature		T_J	+150	°C
Storage Temperature		T_{STG}	-65 ~ +150	°C
Operating Ambient Temperature		T_{OPR}	-65 ~ +150	°C

Notes: 1. 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.
2. Device mounted on a printed-circuit board, single sided copper, tinplated, mounting pad for collector 6 cm^2.

■ THERMAL DATA

PARAMETER		SYMBOL	RATINGS	UNIT
Junction to Ambient	SOT-223	θ_{JA}	83.3	°C/W
	SOT-89		94	°C/W

Note: Device mounted on FR-4 substrate P_C board, 2oz copper, with 1inch square copper plate.

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

PARAMETER	SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT
Collector Base Breakdown Voltage	BV_{CBO}	I_C= 100μA, I_E=0	100			V
Collector Emitter Breakdown Voltage	BV_{CEO}	I_C= 10mA, I_B=0	80			V
Emitter Base Breakdown Voltage	BV_{EBO}	I_E=10μA, I_C=0	5			V
Collector Cut-Off Current	I_{CBO}	I_E=0, V_{CB}=30V			100	nA
Emitter Cut-Off Current	I_{EBO}	I_C=0, V_{EB}=5V			100	nA
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$	I_C=500mA, I_B=50mA			0.5	V
Base-Emitter Voltage	V_{BE}	I_C=500mA, V_{CE}=2V			1	V
DC Current Gain	h_{FE1}	V_{CE}=2V, I_C=5mA	40			
	h_{FE2}	V_{CE}=2V, I_C=150mA	63		250	
	h_{FE3}	V_{CE}=2V, I_C=500mA	25			

■ CLASSIFICATION OF h_{FE2}

RANK	10	16
RANGE	63 ~ 100	100 ~ 250