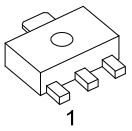
UTP2012ZAQ

Preliminary ***PNP EPITAXIAL SILICON TRANSISTOR***

55V PNP LOW SATURATION MEDIUM POWER TRANSISTOR



SOT-89

■ DESCRIPTION

The **UTP2012ZAQ** is an PNP low $V_{CE(SAT)}$ Breakthrough In Small Signal (BISS) transistor in a medium power.

NPN complement: UTN2010Z.

■ FEATURES

* Very low collector-emitter saturation voltage $V_{CE(SAT)}$
* High collector current capability IC and ICM
* High collector current gain (h_{FE}) at high IC
* High energy efficiency due to less heat generation
* Smaller required Printed-Circuit Board (PCB) area than for conventional transistors

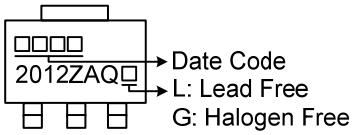
■ ORDERING INFORMATION

Ordering Number		Package	Pin Assignment			Packing
Lead Free	Halogen Free		1	2	3	
UTP2012ZAQL-AB3-R	UTP2012ZAQG-AB3-R	SOT-89	B	C	E	Tape Reel

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

UTP2012ZAQG-AB3-R (1)Packing Type (2)Package Type (3)Green Package	(1) R: Tape Reel (2) AB3: SOT-89 (3) G: Halogen Free and Lead Free, L: Lead Free

■ MARKING



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■ ABSOLUATE MAXIUM RATINGS (T_A= 25°C, unless otherwise specified)

PARAMETER	SYMBOL	RATINGS	UNIT
Collector to Base Voltage	V_{CBO}	-100	V
Collector to Emitter Voltage	V_{CEO}	-55	V
Emitter to Base Voltage	V_{EBO}	-7	V
Bese Current	I_B	-2	A
Collector Current	I_C	-4.3	A
Peak Collector Current (t_P≤1ms)	I_{CM}	-15	A
Collector Dissipation	P_C	1.5	W
Junction Temperature	T_J	+150	°C
Storage Temperature	T_{STG}	-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. Single pulse, P_W=10ms.
3. Device mounted on FR-4 PCB with minimum recommended pad layout. (25×25×1.6mm)

■ THERMAL DATA

PARAMETER	SYMBOL	RATINGS	UNIT
Junction to Ambient	θ_{JA}	83	°C/W

Note: Device mounted on FR-4 PCB with minimum recommended pad layout. (25×25×1.6mm).

■ 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	-100			V
Collector-Emitter Breakdown Voltage	BV_{CER}	I_C=-1μA, RB≤1kΩ	-100			V
Collector-Emitter Breakdown Voltage	BV_{CEO}	I_C=-10mA	-55			V
Emitter-Base Breakdown Voltage	BV_{EBO}	I_E=-100μA	-7.0			V
Collector-Base Cut-off Current	I_{CBO}	V_{CB}=-80V, I_E=0A			-20	nA
		V_{CB}=-80V, I_E=0A, T_A=100°C			-500	nA
Collector-Emitter Cut-off Current	I_{CER}	V_{CE}=-80V, RB≤1kΩ			-20	nA
Emitter-Base Cut-off Current	I_{EBO}	V_{EB}=-6V, I_C=0A			-50	nA
Base-Emitter On Voltage (Note)	$V_{BE\ (ON)}$	V_{CE}=-1V, I_C=-5A			-920	mV
Base-Emitter Saturation Voltage (Note)	$V_{BE\ (SAT)}$	I_C=-5A, I_B=-500mA			-1050	mV
Collector-Emitter Saturation Voltage (Note)	$V_{CE(SAT)}$	I_C=-100mA, I_B=-10mA			-18	mV
		I_C=-1A, I_B=-100mA			-60	mV
		I_C=-2A, I_B=-200mA			-105	mV
		I_C=-5A, I_B=-500mA			-260	mV
DC Current Transfer Ratio (Note)	h_{FE}	I_C=-10mA, V_{CE}=-1V	150			
		I_C=-2A, V_{CE}=-1V	150		250	
		I_C=-5A, V_{CE}=-1V	50			
		I_C=-10A, V_{CE}=-1V	10			
Transition Frequency (Note)	f_T	I_C=-100mA, V_{CE}=-10V, f=50MHz		120		MHz
Collector Capacitance	C_{OB}	V_{CB}=-10V, f=1MHz		90		pF

Note: Measured under pulsed conditions. Pulse Test: Pulse width ≤ 300μs, Duty cycle≤2%.

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