



MPSA29

Preliminary

NPN EPITAXIAL SILICON TRANSISTOR

DARLINGTON TRANSISTOR

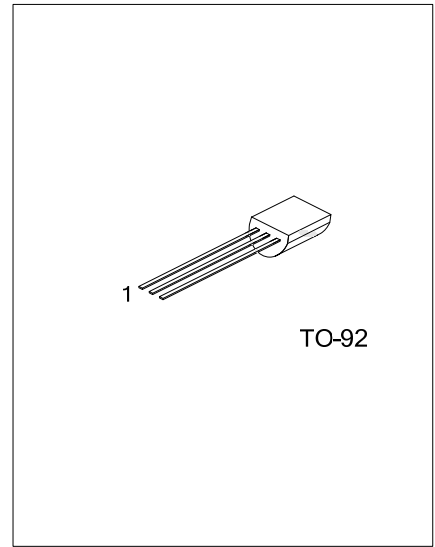
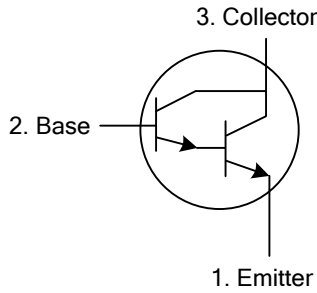
■ DESCRIPTION

The UTC **MPSA29** is a darlington transistor, it uses UTC's advanced technology to provide customers with high DC current gain, etc.

■ FEATURES

* High DC current gain

■ EQUIVALENT CIRCUIT



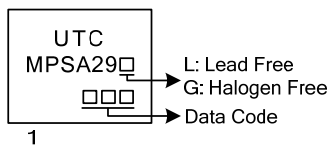
■ ORDERING INFORMATION

Ordering Number		Package	Pin Assignment			Packing
Lead Free	Halogen Free		1	2	3	
MPSA29L-T92-B	MPSA29G-T92-B	TO-92	E	B	C	Tape Box
MPSA29L-T92-K	MPSA29G-T92-K	TO-92	E	B	C	Bulk

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

<p>MPSA29L-T92-B</p> <ul style="list-style-type: none"> (1) Packing Type (2) Package Type (3) Lead Free 	<ul style="list-style-type: none"> (1) B: Tape Box, K: Bulk (2) T92: TO-92 (3) L: Lead Free, G: Halogen Free
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■ MARKING



■ ABSOLUTE MAXIMUM RATINGS (T_A=25°C, unless otherwise specified)

PARAMETER	SYMBOL	RATINGS	UNIT
Collector-Base Voltage	V _{CBO}	100	V
Collector-Emitter Voltage	V _{CES}	100	V
Emitter-Base Voltage	V _{EBO}	12	V
Collector Current-Continuous	I _C	500	mA
Power Dissipation @ T _A =25°C	P _D	625	mW
Derate above 25°C		5.0	mW/°C
Total Device Dissipation @ T _C =25°C	P _D	1.5	W
Derate above 25°C		12	mW/°C
Junction Temperature	T _J	-55~+150	°C
Storage Temperature	T _{STG}	-55~+150	°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.

■ THERMAL CHARACTERISTICS

PARAMETER	SYMBOL	RATINGS	UNIT
Junction-to-Ambient	θ _{JA}	200	°C/W
Junction-to-Case	θ _{JC}	83.3	°C/W

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

PARAMETER	SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT
OFF CHARACTERISTICS						
Collector-Emitter Breakdown Voltage	BV _{CES}	I _C =100μA, V _{BE} =0	100			V
Collector-Base Breakdown Voltage	BV _{CBO}	I _C =100μA, I _E =0	100			V
Emitter-Base Breakdown Voltage	BV _{EBO}	I _E =10μA, I _C =0	12			V
Collector Cut-Off Current	I _{CBO}	V _{CB} =80V, I _E =0			100	nA
	I _{CES}	V _{CE} =80V, V _{BE} =0			500	nA
Emitter Cut-Off Current	I _{EBO}	V _{EB} =10V, I _C =0			100	nA
ON CHARACTERISTICS (Note 1)						
DC Current Gain	h _{FE}	V _{CE} =5.0V, I _C =10mA	10000			
		V _{CE} =5.0V, I _C =100mA	10000			
Collector-Emitter Saturation Voltage	V _{CE(sat)}	I _C =10mA, I _B =0.01mA		0.7	1.2	V
		I _C =100mA, I _B =0.1mA		0.8	1.5	V
Base-Emitter On Voltage	V _{BE(on)}	I _C =100mA, V _{CE} =5.0V		1.4	2.0	V
SMALL-SIGNAL CHARACTERISTICS						
Current-Gain -Bandwidth Product (Note 2)	f _T	I _C =10mA, V _{CE} =5.0V, f=100MHz	125	200		MHz
Output Capacitance	C _{ob}	V _{CB} =10V, I _E =0, f=1.0MHz		5.0	8.0	pF

Notes: 1. Pulse Test: Pulse Width≤300μs, Duty Cycles≤2.0%.

2. f_T = h_{FE} × f_{test}

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