

MPSA29

UNISONIC TECHNOLOGIES CO., LTD

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



1. Emitter

ORDERING INFORMATION

Ordering Number		Dookogo	Pin Assignment			Decking	
Lead Free	Halogen Free	Раскаде	1	2	3	Packing	
MPSA29L-T92-B	MPSA29L-T92-B MPSA29G-T92-B		Е	В	С	Tape Box	
MPSA29L-T92-K MPSA29G-T92-K		TO-92	E	В	С	Bulk	
Note: Pin Assignment: B: Base C: Collector E: Emitter							

MPSA29L- <u>T92</u> -B	(1) B: Tape Box, K: Bulk
(2)Package Type	(2) T92: TO-92
(3)Lead Free	(3) L: Lead Free, G: Halogen Free

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	Ιc	500	mA	
Power Dissipation @ T _A =25°C		625	mW	
Derate above 25°C	PD	5.0	mW/°C	
Total Device Dissipation @ T _C =25°C		1.5	W	
Derate above 25°C	PD	12	mW/°C	
Junction Temperature	TJ	-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 =10μΑ, I _C =0	12			V	
Collector Cut Off Current	I _{CBO}	V _{CB} =80V, I _E =0			100	nA	
Collector Cut-On Current	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)							
DO Ourrent Onin	h _{FE}	V _{CE} =5.0V, I _C =10mA	10000				
		V _{CE} =5.0V, I _C =100mA	10000				
	V _{CE(sat)}	I _C =10mA, I _B =0.01mA		0.7	1.2	V	
Collector-Emitter Saturation Voltage		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⊤	I _C =10mA,V _{CE} =5.0V, f=100MHz		200		MHz	
Output Capacitance	Cob	V_{CB} =10 V , I _E =0, f=1.0MHz		5.0	8.0	pF	

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

2. $f_T = h_{FE} \times f_{test}$



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