

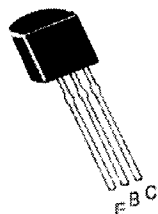
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NPN SILICON PLANAR EPITAXIAL DARLINGTON TRANSISTORS

MPSA28 / MPSA29



**TO-92
 Plastic Package**

ABSOLUTE MAXIMUM RATINGS

DESCRIPTION	SYMBOL	MPSA28	MPSA29	UNITS
Collector Emitter Voltage	V_{CES}	80	100	V
Collector Base Voltage	V_{CBO}	80	100	V
Emitter Base Voltage	V_{EBO}	12		V
Collector Current Continuous	I_C	500		mA
Power Dissipation at $T_a=25^\circ\text{C}$	P_D	625		mW
Derate Above 25°C		5.0		mW/ $^\circ\text{C}$
Power Dissipation at $T_c=25^\circ\text{C}$	P_D	1.5		W
Derate Above 25°C		12		mW/ $^\circ\text{C}$
Operating And Storage Junction Temperature Range	T_J, T_{stg}	- 55 to +150		$^\circ\text{C}$

THERMAL CHARACTERISTICS

Junction to Ambient in free air	$R_{th(j-a)}$	200	$^\circ\text{C/W}$
Junction to Case	$R_{th(j-c)}$	83.3	$^\circ\text{C/W}$

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

DESCRIPTION	SYMBOL	TEST CONDITION	MIN	MAX	UNITS
Collector Emitter Voltage	V_{CES}	$I_C=100\mu\text{A}, V_{BE}=0$	MPSA28	80	V
			MPSA29	100	V
Collector Base Voltage	V_{CBO}	$I_C=100\mu\text{A}, I_E=0$	MPSA28	80	V
			MPSA29	100	V
Emitter Base Voltage	V_{EBO}	$I_E=10\mu\text{A}, I_C=0$	12		V
Collector Cut Off Current	I_{CBO}	$V_{CB}=60\text{V}, I_E=0,$ $V_{CB}=80\text{V}, I_E=0,$	MPSA28	100	nA
			MPSA29	100	nA
Collector Cut Off Current	I_{CES}	$V_{CE}=60\text{V}, V_{BE}=0,$ $V_{CE}=80\text{V}, V_{BE}=0,$	MPSA28	500	nA
			MPSA29	500	nA
Emitter Cut Off Current	I_{EBO}	$V_{EB}=10\text{V}, I_C=0$		100	nA
DC Current Gain	h_{FE}	$V_{CE}=5\text{V}, I_C=10\text{mA}$ $V_{CE}=5\text{V}, I_C=100\text{mA}$	10,000		
			10,000		
Collector Emitter Saturation Voltage	$^*V_{CE(sat)}$	$I_C=10\text{mA}, I_B=0.01\text{mA}$ $I_C=100\text{mA}, I_B=0.1\text{mA}$		1.2	V
				1.5	V
Base Emitter On Voltage	$^*V_{BE(on)}$	$V_{CE}=5\text{V}, I_C=100\text{mA}$		2.0	V
Current Gain Bandwidth Product	$^{**}f_T$	$I_C=10\text{mA}, V_{CE}=5\text{V}, f=100\text{MHz}$	125		MHz
Output Capacitance	C_{ob}	$V_{CB}=10\text{V}, I_E=0\text{V}, f=1.0\text{MHz}$		8.0	pF

*Pulse test: Pulse Width $\leq 300\mu\text{s}$, Duty Cycle $\leq 2\%$

** $f_T = |h_{fe}| \cdot f_{test}$

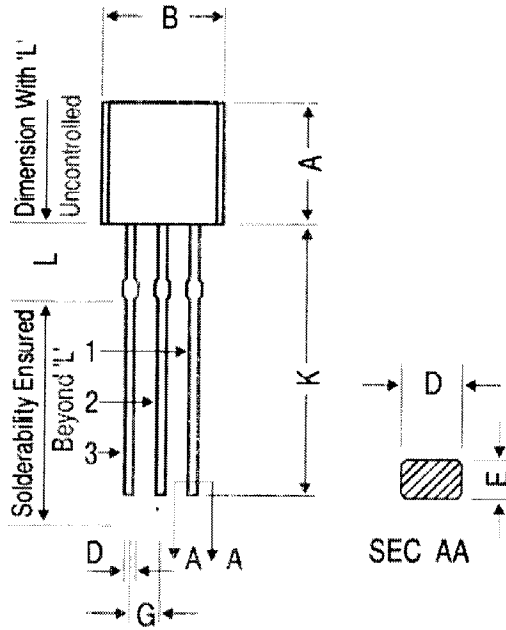


Quality Semi-Conductors

MPSA28 / MPSA29

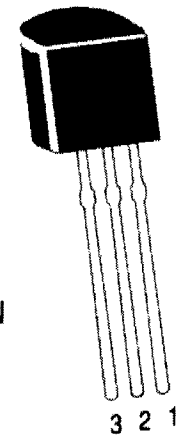
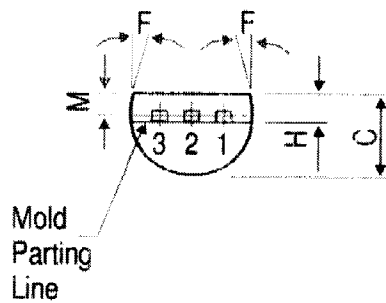
**TO-92
Plastic Package**

TO-92 Plastic Package



DIM	MIN.	MAX.
A	4.32	5.33
B	4.45	5.20
C	3.18	4.19
D	0.41	0.55
E	0.35	0.55
F	5 DEG	
G	1.14	1.40
H	1.20	1.80
K	12.50	—
L	1.982	2.082
M	1.03	1.53

All dimensions are in mm



PIN CONFIGURATION

1. COLLECTOR
2. BASE
3. EMITTER

3 2 1