

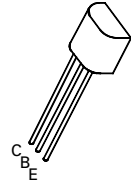
# NPN SILICON PLANAR MEDIUM POWER DARLINGTON TRANSISTOR

## MPSA12

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### FEATURES

- \* 1 Watt power dissipation
- \* 1 Amp continuous current
- \* Minimum gain =8K at 250mA



E-Line  
TO92 Compatible

### ABSOLUTE MAXIMUM RATINGS.

PARAMETER	SYMBOL	VALUE	UNIT
Collector-Base Voltage	$V_{CBO}$	100	V
Collector-Emitter Voltage	$V_{CEO}$	100	V
Emitter-Base Voltage	$V_{EBO}$	12	V
Peak Pulse Current	$I_{CM}$	2	A
Continuous Collector Current	$I_C$	1	A
Power Dissipation at $T_{amb}=25^{\circ}C$	$P_{tot}$	1	W
Operating and Storage Temperature Range	$T_j; T_{stg}$	-55 to +200	$^{\circ}C$

### ELECTRICAL CHARACTERISTICS (at $T_{amb} = 25^{\circ}C$ ).

PARAMETER	SYMBOL	MIN.	TYP.	MAX.	UNIT	CONDITIONS.
Collector-Base Breakdown Voltage	$V_{(BR)CBO}$	100			V	$I_C=100\mu A, I_E=0$
Collector-Emitter Breakdown Voltage	$V_{(BR)CES}$	100			V	$I_C=100\mu A, I_B=0^*$
Emitter-Base Breakdown Voltage	$V_{(BR)EBO}$	12			V	$I_E=10\mu A, I_C=0$
Collector Cut-Off Current	$I_{CBO}$			100	nA	$V_{CB}=80V, I_E=0$
Emitter Cut-Off Current	$I_{EBO}$			100	nA	$V_{EB}=10V, I_C=0$
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$			1.1	V	$I_C=250mA, I_B=0.25mA$
Base-Emitter Saturation Voltage	$V_{BE(sat)}$			2	V	$I_C=250mA, I_B=0.25mA$
Static Forward Current Transfer Ratio	$h_{FE}$	10K 8K				$I_C=100mA, V_{CE}=5V^*$ $I_C=250mA, V_{CE}=5V^*$
Transition Frequency	$f_T$	100			MHz	$I_C=100mA, V_{CE}=5V$ $f=20MHz$

\*Measured under pulsed conditions. Pulse width =300 $\mu s$ . Duty cycle  $\leq 2\%$