

# MPSA12

CASE 29-02, STYLE 1  
TO-92 (TO-226AA)

## DARLINGTON TRANSISTOR

NPN SILICON

### MAXIMUM RATINGS

Rating	Symbol	Value	Unit
Collector-Emitter Voltage	$V_{CES}$	20	Vdc
Emitter-Base Voltage	$V_{EBO}$	10	Vdc
Total Device Dissipation @ $T_A = 25^\circ\text{C}$ Derate above $25^\circ\text{C}$	$P_D$	625 5.0	mW mW/ $^\circ\text{C}$
Operating and Storage Junction Temperature Range	$T_J, T_{stg}$	-55 to +150	$^\circ\text{C}$

### THERMAL CHARACTERISTICS

Characteristic	Symbol	Max	Unit
Thermal Resistance, Junction to Ambient	$R_{\theta JA}$	200	$^\circ\text{C/W}$

Refer to 2N6426 for graphs.

### ELECTRICAL CHARACTERISTICS ( $T_A = 25^\circ\text{C}$ unless otherwise noted.)

Characteristic	Symbol	Min	Typ	Max	Unit
<b>OFF CHARACTERISTICS</b>					
Collector-Emitter Breakdown Voltage ( $I_C = 100 \mu\text{A}$ , $I_B = 0$ )	$V_{(BR)CES}$	20	—	—	Vdc
Collector Cutoff Current ( $V_{CB} = 15 \text{ Vdc}$ , $I_E = 0$ )	$I_{CBO}$	—	—	100	nAdc
Collector Cutoff Current ( $V_{CE} = 15 \text{ Vdc}$ , $V_{BE} = 0$ )	$I_{CES}$	—	—	100	nAdc
Emitter Cutoff Current ( $V_{EB} = 10 \text{ Vdc}$ , $I_C = 0$ )	$I_{EBO}$	—	—	100	nAdc
<b>ON CHARACTERISTICS</b>					
DC Current Gain ( $I_C = 10 \text{ mA}$ , $V_{CE} = 5.0 \text{ Vdc}$ )	$h_{FE}$	20,000	—	—	—
Collector-Emitter Saturation Voltage ( $I_C = 10 \text{ mA}$ , $I_B = 0.01 \text{ mA}$ )	$V_{CE(sat)}$	—	—	1.0	Vdc
Base-Emitter On Voltage ( $I_C = 10 \text{ mA}$ , $V_{CE} = 5.0 \text{ Vdc}$ )	$V_{BE}$	—	—	1.4	Vdc