

MXTA64

CASE 345-01, STYLE 1
SOT-89

DARLINGTON TRANSISTOR

PNP SILICON

MAXIMUM RATINGS

Rating	Symbol	Value	Unit
Collector-Emitter Voltage	V_{CES}	30	Vdc
Collector-Base Voltage	V_{CBO}	30	Vdc
Emitter-Base Voltage	V_{EBO}	10	Vdc
Collector Current — Continuous	I_C	300	mA

THERMAL CHARACTERISTICS

Characteristic	Symbol	Max	Unit
*Total Device Dissipation, $T_A = 25^\circ\text{C}$ Derate above 25°C	P_D	1.0 8.0	Watt $\text{mW}/^\circ\text{C}$
Storage Temperature	T_{stg}	150	$^\circ\text{C}$
*Thermal Resistance Junction to Ambient	$R_{\theta JA}$	125	$^\circ\text{C}/\text{W}$

*Package mounted on 99.5% alumina 10 x 12 x 0.6 mm.

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

Characteristic	Symbol	Min	Max	Unit
OFF CHARACTERISTICS				
Collector-Emitter Breakdown Voltage ($I_C = 100 \mu\text{A}$)	$V_{(BR)CES}$	30	—	Vdc
Collector Cutoff Current ($V_{CB} = 30 \text{ Vdc}$)	I_{CBO}	—	100	nA
Emitter Cutoff Current ($V_{BE} = 10 \text{ Vdc}$)	I_{EBO}	—	100	nAc
ON CHARACTERISTICS				
DC Current Gain ($I_C = 10 \text{ mA}$, $V_{CE} = 5.0 \text{ Vdc}$)(1) ($I_C = 100 \text{ mA}$, $V_{CE} = 5.0 \text{ Vdc}$)(1)	h_{FE}	10000 20000	— —	—
Collector-Emitter Saturation Voltage ($I_C = 100 \text{ mA}$, $I_B = 0.1 \text{ mA}$)(1)	$V_{CE(sat)}$	—	1.5	Vdc
Base-Emitter On Voltage ($I_C = 100 \text{ mA}$, $V_{CE} = 5.0 \text{ Vdc}$)(1)	$V_{BE(on)}$	—	2.0	Vdc
SMALL-SIGNAL CHARACTERISTICS				
Current-Gain — Bandwidth Product ($V_{CE} = 5.0 \text{ Vdc}$, $I_C = 100 \text{ mA}$, $f = 100 \text{ MHz}$)	f_T	125	—	MHz

(1) Pulse Width $\leq 300 \mu\text{s}$, Duty Cycle $\leq 2.0\%$.