MXTA44

CASE 345-01, STYLE 1
SOT-89

HIGH VOLTAGE TRANSISTOR

NPN SILICON

Refer to MPSA44 for graphs.

MAXIMUM RATINGS

Rating	Symbol	Value	Unit
Collector-Emitter Voltage	V_{CEO}	400	V
Collector-Base Voltage	V_{CBO}	500	V
Emitter-Base Voltage	V_{EBO}	6.0	V
Collector Current — Continuous	I_C	300	mA

THERMAL CHARACTERISTICS

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

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

ELECTRICAL CHARACTERISTICS (T_A = 25°C unless otherwise noted.)

Characteristic	Symbol	Min	Max	Unit
OFF CHARACTERISTICS				
Collector-Emitter Breakdown Voltage(1) (I_C = 1.0 mA, I_B = 0)	$V_{(BR)CEO}$	400	—	V
Collector-Emitter Breakdown Voltage (I_C = 100 μA, V_{BE} = 0)	$V_{(BR)CES}$	500	—	V
Collector-Base Breakdown Voltage (I_C = 100 μA, I_B = 0)	$V_{(BR)CBO}$	500	—	V
Emitter-Base Breakdown Voltage (I_E = 10 μA, I_C = 0)	$V_{(BR)EBO}$	6.0	—	V
ON CHARACTERISTICS				
DC Current Gain(1) (I_C = 1.0 mA, V_{CE} = 10) (I_C = 10 mA, V_{CE} = 10) (I_C = 50 mA, V_{CE} = 10) (I_C = 100 mA, V_{CE} = 10)	h_{FE}	 40 50 45 40	 — 200 — —	—
Collector-Emitter Saturation Voltage(1) (I_C = 1.0 mA, I_B = 0.1 mA) (I_C = 10 mA, I_B = 1.0 mA) (I_C = 50 mA, I_B = 5.0 mA)	$V_{CE(sat)}$	 — — —	 0.4 0.5 0.75	V
Base-Emitter Saturation Voltage (I_C = 10 mA, I_B = 1.0 mA)	$V_{BE(sat)}$	—	0.75	V
SMALL-SIGNAL CHARACTERISTICS				
Output Capacitance (V_{CB} = 20 V, I_E = 0, f = 1.0 MHz)	C_{obo}	—	6.0	pF
Input Capacitance (V_{EB} = 0.5 V, I_C = 0, f = 1.0 MHz)	C_{ibo}	—	110	pF
Current Gain — High Frequency (I_C = 10 mA, V_{CE} = 10 V, f = 10 MHz)	$\|h_{fe}\|$	2.0	—	—

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