

BUY47
BUY48

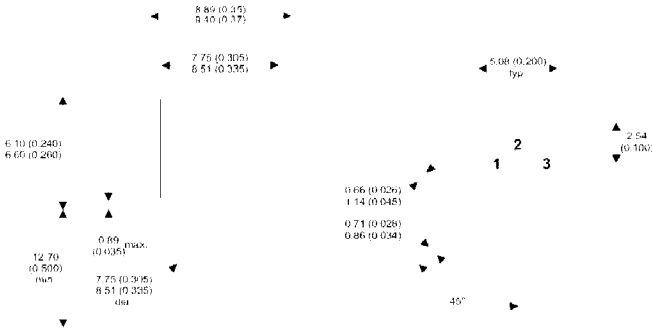
MECHANICAL DATA

Dimensions in mm (inches)

**HIGH VOLTAGE, HIGH CURRENT
 SILICON EXPITAXIAL PLANAR
 NPN TRANSISTOR**

APPLICATIONS

Intended for High Voltage, High Current,
 Switching Applications up to 7A.



TO-39 PACKAGE

Pin 1 – Emitter Pin 2 – Base Pin 3 – Collector

ABSOLUTE MAXIMUM RATINGS ($T_{case} = 25^{\circ}C$ unless otherwise stated)

		BUY47	BUY48
V_{CBO}	Collector – Base Voltage ($I_E = 0$)	150V	200V
V_{CEO}	Collector – Emitter Voltage ($I_B = 0$)	120V	170V
V_{EBO}	Emitter – Base Voltage ($I_C = 0$)		6V
I_C	Collector Current		7A
I_{CM}	Peak Collector Current (repetitive)		10A
P_{tot}	Total Power Dissipation @ $T_{amb} \leq 25^{\circ}C$ @ $T_{case} \leq 50^{\circ}C$		1W 10W
T_{STG}	Storage Temperature Range		-65 to +200°C
T_J	Maximum Operating Junction Temperature		200°C

BUY48

ELECTRICAL CHARACTERISTICS (T_{case} = 25°C unless otherwise stated)

Parameter	Test Conditions	Min.	Typ.	Max.	Unit
I _{CBO} Collector Cut-off Current	V _{CB} = 80V			10	μA
	I _E = 0			1	mA
	V _{CB} = 100V			10	μA
	I _E = 0			1	mA
V _{(BR)CBO} * Collector – Base Breakdown Voltage	I _C = 1mA	150			V
	I _E = 0	200			V
V _{CEO(sus)} * Collector – Emitter Sustaining Voltage	I _C = 20mA	120			V
	I _B = 0	170			V
V _{EBO} * Emitter – Base Voltage	I _E = 1mA	6			V
V _{CE(sat)} * Collector – Emitter Saturation Voltage	I _C = 0.5A		0.05		V
	I _C = 2A			0.45	V
	I _C = 5A			1	V
V _{BE(sat)} * Base – Emitter Saturation Voltage	I _C = 0.5A		0.8		V
	I _C = 2A			1.1	V
	I _C = 5A			1.5	V
h _{FE} * DC Current Gain	I _C = 50mA		130		—
	I _C = 0.5A	40	150		—
	I _C = 2A	40	130		—
f _T Transition Frequency	I _C = 5A	15	45		—
	I _C = 100mA		90		MHz
C _{CBO} Collector – Base Capacitance	I _E = 0		45	80	pF
t _{on} Turn-On Time	f = 1MHz			1	μs
t _{off} Fall Time	I _C = 5A			2	μs
	I _{B1} = -I _{B2} = 0.5A				

NOTES

* Pulse Test: t_p = 300μs, δ = 1.5%