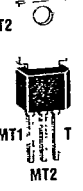


T-25-13
T-25-15
T-25-17

QUADRAC's® —(1.6-15 Amp)

IT RMS	Part Number		V _{DRM}	I _{DRM}			V _{TM}	Trigger Diac Specifications					
	Isolated	Non-Isolated		Peak Off-State Current Gate Open V _{DRM} = Max Rated Value (1)				Peak On-State Voltage at Max Rated RMS Current T _C = 25°C (1) (3)	ΔV(BO)	V _{BO}	[ΔV ±]	I _{BO}	C _T
RMS On-State Current Conduction Angle of 360° (5)			Repetitive Peak Blocking Voltage (1)					Breakover Voltage Symmetry (7)	Breakover Voltage (Forward & Reverse) (6)	Dynamic Breakback Voltage (Forward & Reverse) (6)	Peak Breakover Current	Trigger Firing Capacitance	
Amps	THERMOTAB TO-220AB	TO-202	Volts	mA-Max			Volts	Volts	Volts	Volts	μA	μF	
MAX	FOR DIMENSIONAL OUTLINE AND PACKAGE VARIATIONS SEE PAGE 81		MIN	T _C = 25°C	T _C = 100°C	T _C = 125°C	MAX	MAX	MIN	MAX	MIN	MAX	MAX
1.6 Amps	Q2001LT		200	.05	0.5	2.0	1.6	3	30	45	5	200	0.1
	Q4001LT		400	.05	0.5	2.0	1.6	3	30	45	5	200	0.1
3.0 Amps	Q2003LT		200	.05	0.5	2.0	1.6	3	30	45	5	200	0.1
	Q4003LT		400	.05	0.5	2.0	1.6	3	30	45	5	200	0.1
4.0 Amps	Q2004LT	Q2004FT1	200	.05	0.5	2.0	1.6	3	30	45	5	200	0.1
	Q4004LT	Q4004FT1	400	.05	0.5	2.0	1.6	3	30	45	5	200	0.1
	Q5004LT	Q5004FT1	500	.05	0.5	2.0	1.6	3	30	45	5	200	0.1
	Q6004LT	Q6004FT1	600	.05	0.5	2.0	1.6	3	30	45	5	200	0.1
10.0 Amps	Q2010LT	Q2010FT1	200	.05	0.5	2.0	1.6	3	30	45	5	200	0.1
	Q4010LT	Q4010FT1	400	.05	0.5	2.0	1.6	3	30	45	5	200	0.1
	Q5010LT	Q5010FT1	500	.05	0.5	2.0	1.6	3	30	45	5	200	0.1
	Q6010LT	Q6010FT1	600	.05	0.5	2.0	1.6	3	30	45	5	200	0.1
15.0 Amps	Q2015LT		200	.05	0.5	2.0	1.6	3	30	45	5	200	0.1
	Q4015LT		400	.05	0.5	2.0	1.6	3	30	45	5	200	0.1
	Q5015LT		500	.05	0.5	2.0	1.6	3	30	45	5	200	0.1
	Q6015LT		600	.05	0.5	2.0	1.6	3	30	45	5	200	0.1

GENERAL NOTES

- All measurements are made at 60 Hz with resistive load at an ambient temperature of +25°C unless otherwise specified.
- Operating temperature range (T_J) is -40°C to +125°C.
- Storage temperature range (T_S) is -40°C to +125°C. TO-202 is -40°C to +150°C.

- Lead solder temperature is a maximum of +230°C for 10 seconds maximum; $\geq 1/16"$ from case.
- The case temperature (T_C) is measured as shown on dimensional outline drawings. See dimensional outline and package variations on page 81.

THERMAL RESISTANCE (STEADY STATE)			
R _{θJC} R _{θJA} °C/W (TYP)			
TYPE			
1.6 Amp	5.2/60		
3.0 Amp	4.4/50		
4.0 Amp	3.6	3.5/45	6.0/70
10.0 Amp	2.6	3.5	
15.0 Amp	2.0		

ELECTRICAL ISOLATION

All Teccor isolated Quadrac packages will withstand a minimum high potential test of 2500VAC (RMS) from leads to case, over the operating temperature range of the device. See isolation table for standard and optional isolation ratings.

ELECTRICAL ISOLATION FROM LEADS TO CASE	
U.L. RECOGNIZED FILE #E71639	
TYPE	
VAC (RMS)	TO-220 AB
1600	
2500	STANDARD
4000	OPTIONAL

*FOR 4000 V ISOLATION USE "V" SUFFIX

T-25-13
T-25-15

Electrical Specifications

I_H	I_{TSM}		dv/dt (c)	dv/dt		t_{gt}	I_t	I_{GTM}	di/dt
Holding Current Gate Open (1) (2)	Peak One Cycle Surge (4) (8)		Critical Rate of Rise of Commutation Voltage at Rated V_{DRM} and I_T (RMS) Commutating $di/dt = .54$ Rated I_T (RMS)/msec. Gate Unenergized (1) (5) (8)	Critical Rate of Rise of Off-State Voltage at Rated V_{DRM} Gate Open (1)		Gate Controlled Turn-On Time (6) (9)	RMS Surge (Non-Repetitive) On-State Current For period of 8.3 msec for Fusing	Peak Gate Trigger Current (3 μ sec Max)	Maximum Rate of Change of On-State Current (9)
mA	Amps		Volts/ μ s	Volts/ μ s		μ s	Amps ² sec.	Amps	Amps/ μ s
MAX	60Hz	50Hz	MIN	$T_C = 100^\circ C$	$T_C = 125^\circ C$	MAX			
30	20	16.7	2	45	30	3	1.6	1.0	30
30	20	16.7	2	35	25	3	1.6	1.0	30
40	30	25	3	75	50	3	3.7	1.2	50
40	30	25	3	75	50	3	3.7	1.2	50
40	40	33	3	75	50	3	6.6	1.2	50
40	40	33	3	75	50	3	6.6	1.2	50
40	40	33	3	50	35	3	6.6	1.2	50
40	40	33	3	50	35	3	6.6	1.2	50
60	120	100	4	200	150	3	60	1.5	70
60	120	100	4	200	150	3	60	1.5	70
60	120	100	4	175	120	3	60	1.5	70
60	120	100	4	175	120	3	60	1.5	70
70	150	125	4	300	200	3	93	1.5	100
70	150	125	4	300	200	3	93	1.5	100
70	150	125	4	200	150	3	93	1.5	100
70	150	125	4	200	150	3	93	1.5	100

NOTES TO ELECTRICAL SPECIFICATIONS

- For either polarity of MT2 with reference to MT1.
- See Figure 1 for I_H vs T_C .
- See Figure 3A & 3B for I_T vs V_T .
- See Figure 6 for surge ratings with specific durations.

- See Figures 4, 5A & 5B for current rating at specific operating temperature.
- See Figure 2A & 2B for test circuit.
- $\Delta V_{(BO)} = [V_{(BO)}] - [-V_{(BO)}]$
- See Figures 5A & 5B for maximum allowable case temperature @ maximum rated current.
- Trigger firing capacitance = $0.1\mu f$ with 0.1μ sec rise time.

FIGURE 1—Normalized DC Holding Current vs Case Temperature

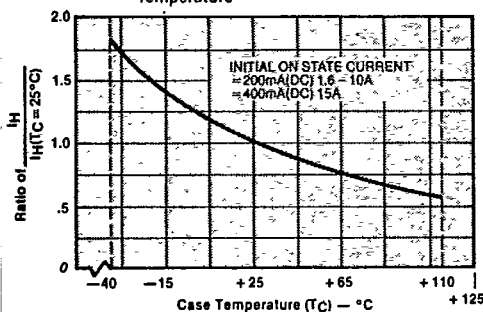


FIGURE 2 - A — Test Circuit

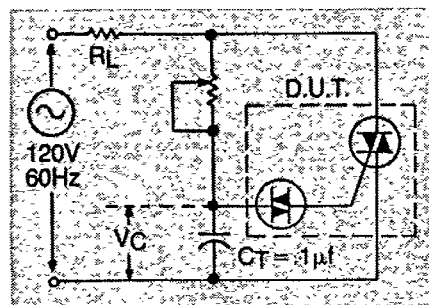
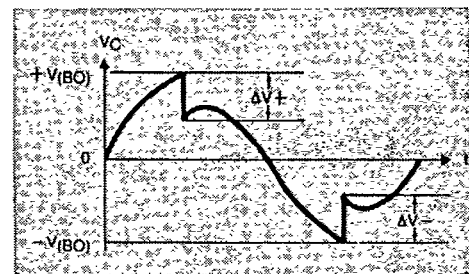
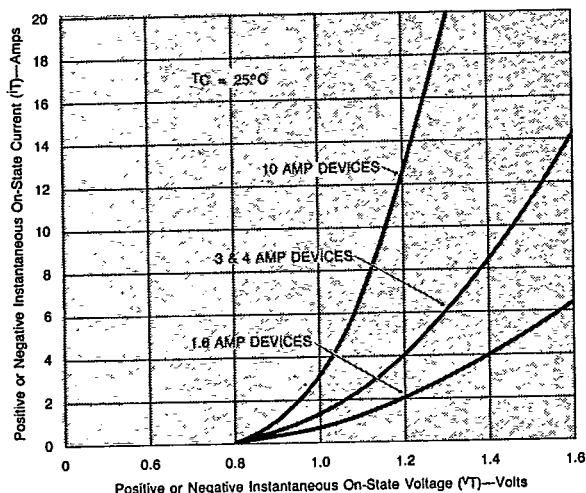
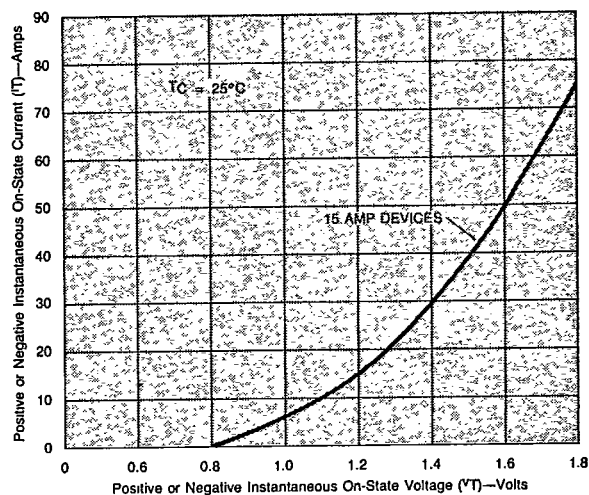
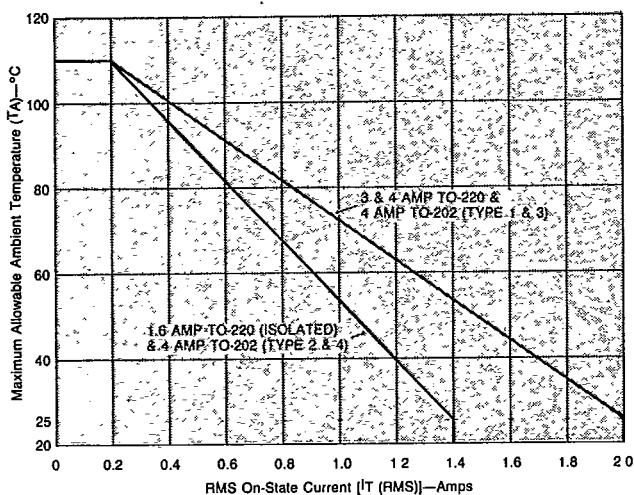
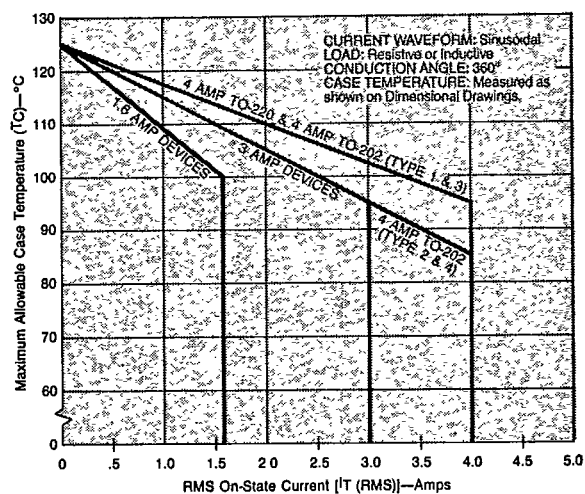


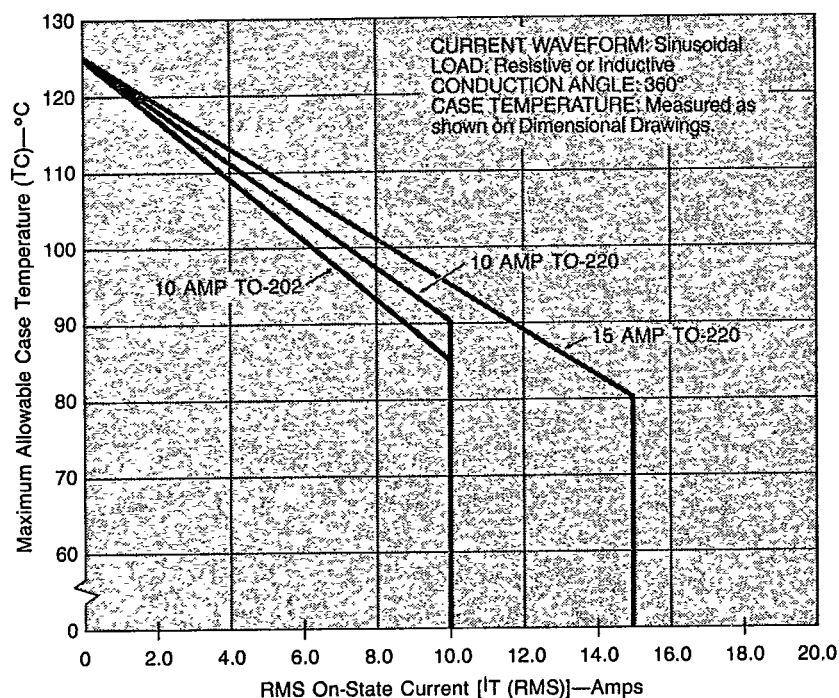
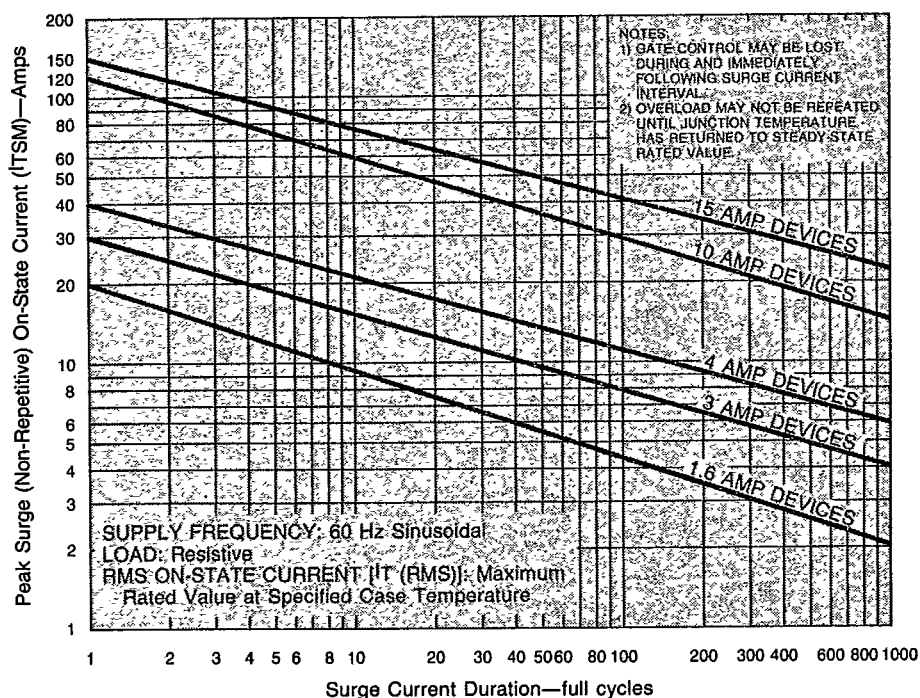
FIGURE 2 - B — Test Circuit Waveforms

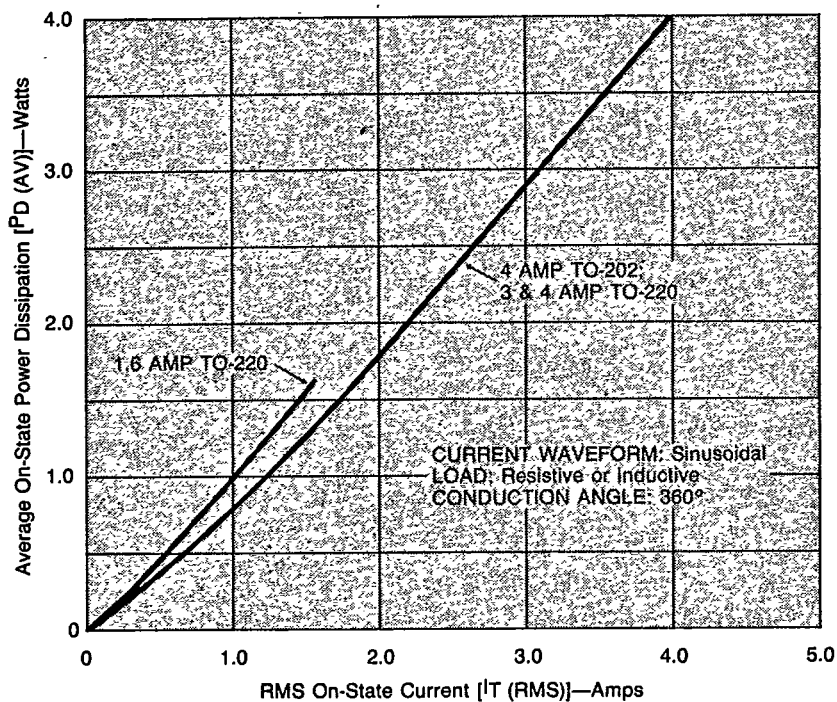


T-25-13

T-25-15

QUADRAC's**FIGURE 3A — On-State Current vs On-State Voltage (Typical)****FIGURE 3B — On-State Current vs On-State Voltage (Typical)****FIGURE 4 — Maximum Allowable Ambient Temperature vs. On-State Current****FIGURE 5A — Maximum Allowable Case Temperature vs. On-State Current**

QUADRAC'sT-25-13
T-25-15**FIGURE 5B— Maximum Allowable Case Temperature
vs. On-State Current****FIGURE 6—Peak Surge Current
vs Surge Current Duration**

QUADRAC'sT-25-13
T-25-15**FIGURE 7A — Power Dissipation (Typ.)
vs. On-State Current****FIGURE 7B — Power Dissipation (Typ.)
vs. On-State Current**