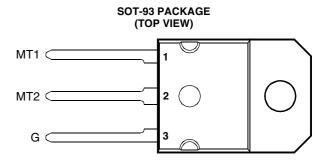


- High Current Triacs
- 25 A RMS
- Glass Passivated Wafer
- 400 V to 800 V Off-State Voltage
- 175 A Peak Current
- Max I_{GT} of 50 mA (Quadrants 1 3)

This model is currently available, but not recommended for new designs. For more information, see http://bourns.com/data/global/pdfs/TSP1203_S0T93_POM.pdf.



Pin 2 is in electrical contact with the mounting base.

MDC2ADA

absolute maximum ratings over operating case temperature (unless otherwise noted)

RATING			VALUE	UNIT
Repetitive peak off-state voltage (see Note 1)	TIC263D		400	
	TIC263M	V	600	V
	TIC263S	V_{DRM}	700	V
	TIC263N		800	
Full-cycle RMS on-state current at (or below) 60°C case temperature (see Note 2)			25	Α
Peak on-state surge current full-sine-wave at (or below) 25°C case temperature (see Note 3)			175	Α
Peak gate current			±1	Α
Operating case temperature range			-40 to +110	°C
Storage temperature range			-40 to +125	°C
Lead temperature 1.6 mm from case for 10 seconds			230	°C

- NOTES: 1. These values apply bidirectionally for any value of resistance between the gate and Main Terminal 1.
 - 2. This value applies for 50-Hz full-sine-wave operation with resistive load. Above 60°C derate linearly to 110°C case temperature at the rate of 500mA/°C.
 - 3. This value applies for one 50-Hz full-sine-wave when the device is operating at (or below) the rated value of peak reverse volta ge and on-state current. Surge may be repeated after the device has returned to original thermal equilibrium.

electrical characteristics at 25°C case temperature (unless otherwise noted)

PARAMETER TEST CONDITIONS		MIN	TYP	MAX	UNIT			
I _{DRM}	Repetitive peak off-state current	$V_D = Rated V_{DRM}$	I _G = 0	T _C = 110°C			±2	mA
		$V_{\text{supply}} = +12 \text{ V}\dagger$	$R_L = 10 \Omega$	t _{p(g)} > 20 μs		15	50	
I _{GT}	Gate trigger	$V_{\text{supply}} = +12 \text{ V}^{\dagger}$	$R_L = 10 \Omega$	$t_{p(g)} > 20 \mu s$		-30	-50	mA
	current	$V_{\text{supply}} = -12 \text{ V}\dagger$	$R_L = 10 \Omega$	$t_{p(g)} > 20 \mu s$		-20	-50	
		$V_{\text{supply}} = -12 \text{ V}\dagger$	$R_L = 10 \Omega$	$t_{p(g)} > 20 \mu s$		32		
V _{GT}		$V_{\text{supply}} = +12 \text{ V}^{\dagger}$	$R_L = 10 \Omega$	t _{p(g)} > 20 μs		0.8	2	
	Gate trigger	$V_{\text{supply}} = +12 \text{ V}\dagger$	$R_L = 10 \Omega$	$t_{p(g)} > 20 \mu s$		-0.8	-2	V
	voltage	$V_{\text{supply}} = -12 \text{ V}\dagger$	$R_L = 10 \Omega$	$t_{p(g)} > 20 \mu s$		-0.8	-2	
		$V_{\text{supply}} = -12 \text{ V}\dagger$	$R_L = 10 \Omega$	$t_{p(g)} > 20 \mu s$		0.8	2	
V _T	On-state voltage	I _T = ±35.2 A	$I_G = 50 \text{ mA}$	(see Note 4)		±1.5	±1.7	V

[†] All voltages are with respect to Main Terminal 1.

NOTE 4: This parameter must be measured using pulse techniques, t_p = ≤ 1 ms, duty cycle ≤ 2 %. Voltage-sensing contacts separate from the current carrying contacts are located within 3.2 mm from the device body.

PRODUCT INFORMATION



electrical characteristics at 25°C case temperature (unless otherwise noted) (continued)

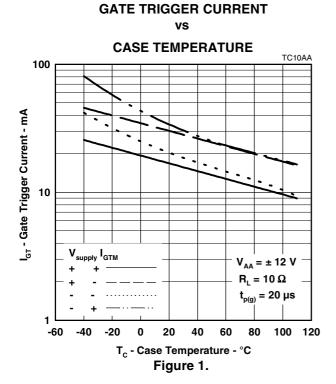
	PARAMETER	TEST CONDITIONS			MIN	TYP	MAX	UNIT
	Holding current	V _{supply} = +12 V†	I _G = 0	Init' I _T = 100 mA		20	40	mA
l _H	riolaling current	$V_{\text{supply}} = -12 \text{ V}\dagger$	$I_G = 0$	Init' $I_T = -100 \text{ mA}$		-10	-40	ША
IL	Latching current	$V_{\text{supply}} = +12 \text{ V}^{\dagger}$	(see Note 5)			20		mA
		$V_{\text{supply}} = -12 \text{ V}^{\dagger}$	(see Note 3)		-20		ША	
dv/dt	Critical rate of rise of	V _D = Rated V _D	I _G = 0	T _C = 110°C		±450		V/µs
	off-state voltage					±430		ν/μ5
dv/dt _(c)	Critical rise of	$V_D = Rated V_D$		T _C = 80°C		±1		V/µs
	commutation voltage	$di/dt = 0.5 I_{T(RMS)}/ms$		$I_{T} = 1.4 I_{T(RMS)}$				ν/μ5
di/dt	Critical rate of rise of	$V_D = Rated V_D$	$I_{GT} = 50 \text{ mA}$ $T_C = 110^{\circ}\text{C}$	T. = 110°C		±100		A/µs
	on -state current	$di_{G}/dt = 50 \text{ mA/}\mu\text{s}$		1C = 110 Q		100		<i>Α</i> , μο

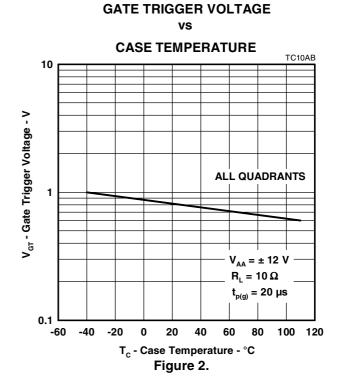
[†] All voltages are with respect to Main Terminal 1.

thermal characteristics

PARAMETER		MIN	TYP	MAX	UNIT
$R_{\theta JC}$	Junction to case thermal resistance			1.52	°C/W
$R_{\theta JA}$	Junction to free air thermal resistance			36	°C/W

TYPICAL CHARACTERISTICS





PRODUCT INFORMATION

NOTE 5: The triacs are triggered by a 15-V (open-circuit amplitude) pulse supplied by a generator with the following characteristics: $R_G = 100 \ \Omega$, $t_{p(g)} = 20 \ \mu s$, $t_r = \le 15 \ ns$, $t_r = 1 \ kHz$.

TYPICAL CHARACTERISTICS

