



4A Bipolar TRIAC Series

Description

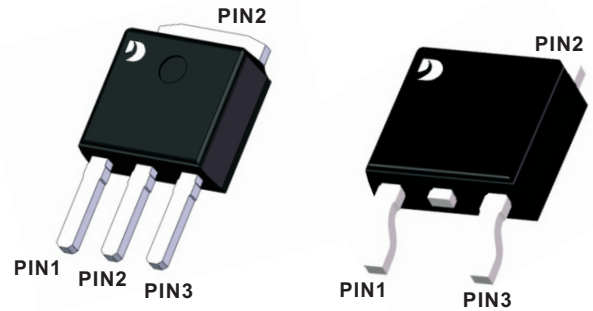
With low holding and latching current, this series triacs are especially recommended for use on middle and small resistance type power load.

Mechanical data

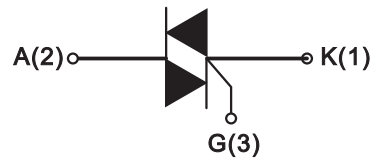
- Case: TO-251W
- Approx. Weight: 0.342g (0.012oz)
- Case: TO-252W
- Approx. Weight: 0.329g (0.011oz)
- Lead free finish, RoHS compliant
- Case Material: "Green" molding compound, UL flammability classification 94V-0, "Halogen-free".

TO-251W(Suffix:V)

TO-252W(Suffix:D)



Application Circuit



■ **Absolute Maximum Ratings** (Operating temperature range applies unless otherwise specified)

Parameter	Symbols	Ratings	Unit
Repetitive peak off-state voltage	V _{DRM}	600/800	V
Repetitive peak reverse voltage	V _{RRM}	600/800	V
Non repetitive surge peak Off-state voltage	V _{DSM}	V _{DRM} +100	V
Non repetitive peak reverse voltage	V _{RSM}	V _{DSM} +100	V
RMS on-state current	I _{T(RMS)}	4	A
Non repetitive surge peak on-state current (full cycle, f=50Hz)	I _{TSM}	35	A
I ² t value for fusing (tp=10ms)	I ² _T	6.1	A ² S
Critical rate of rise of on-state current	I-II-III	50	A/us
	IV	10	
Peak gate current (tp=20μs, Tj=125°C)	I _{GM}	2.0	A
Peak gate power (tp=20μs, Tj=125°C)	P _{GM}	5	W
Average gate power dissipation(Tj=125°C)	P _{G(AV)}	0.5	W
Operating junction temperature range	T _J	-40 to +125	°C
Storage junction temperature range	T _{STG}	-40 to +150	°C



■ Electrical Characteristics (T_J=25°C Unless Otherwise Specified)

Symbols	Test Condition	Quadrant		Value				Unit
				T*	D	E	F	
I _{GT}	V _D =12V	I-II-III	Max	5	5	10	25	mA
		IV		5	10	25	70	
V _{GT}		All		1.3				V
V _{GD}	V _D =V _{DRM} , T _j =125°C, R _L =3.3kΩ	All	Min	0.2				V
I _L	I _G =1.2 I _{GT}	I-III	Max	10	20	30	40	mA
		II-IV		15	35	45	60	
I _H	I _T =0.1A				5	15	25	30
dV/dt	V _D =2/3V _{DRM} Gate Open T _j =125°C		Min	20	50	100	150	V/us
(dV/dt) _c	(dI/dt) _c =1.7A/ms T _j =125°C				0.1	0.1	0.5	5

■ Static Characteristics

Symbols	Parameter		Value(Max)	Unit
V _{TM}	I _{TM} =5.5A t _p =380μs	T _J =25°C	1.6	V
I _{DRM}	V _D =V _{DRM} V _R =V _{RRM}	T _J =25°C	5	uA
I _{RRM}		T _J =125°C	500	uA

■ Thermal Resistances

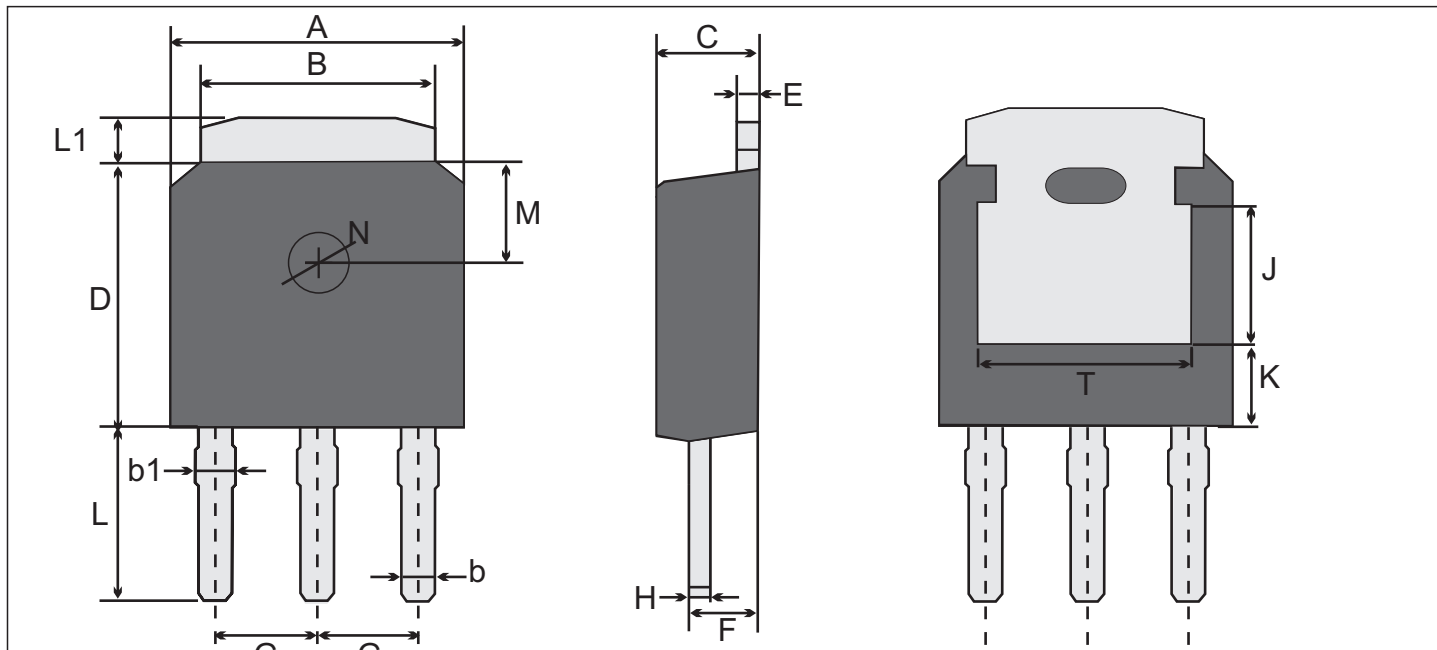
Symbols	Parameter		Value(Max)	Unit
R _{th(j-c)}	junction to case	TO-251W TO-252W	2.8	°C/W

■ Ordering Information

T	4	V	-6	E	
↓	↓	↓	↓	↓	
T: TRIAC	4: I _T (RMS)	V: TO-251W D: TO-252W	-6: 600V -8: 800V		
					T=I _{GT} 1-3≤5mA, I _{GT} 4≤5mA D=I _{GT} 1-3≤5mA, I _{GT} 4≤10mA E=I _{GT} 1-3≤10mA, I _{GT} 4≤25mA F=I _{GT} 1-3≤25mA, I _{GT} 4≤70mA



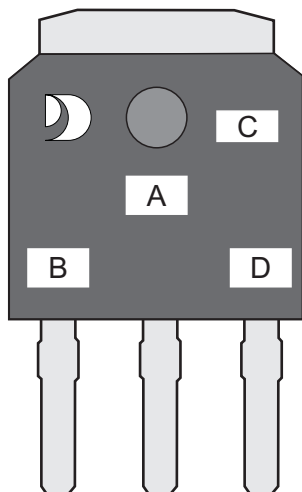
TO-251W(I-PAK) Package Outline Dimensions



TO-251W(I-PAK) mechanical data

UNIT	A	B	b	b1	C	D	E	F	G	H	L	L1	M	N	J	T	K	
mm	max	6.7	5.53	0.86	1.11	2.5	6.3	0.61	1.72	2.3 typ.	0.56	4.3	1.2	1.8 typ.	1.3 typ.	3.2 ref.	4.83 ref.	1.8 ref.
	typ	6.6	5.33	0.76	0.91	2.3	6.1	0.51	1.52		0.51	4.1	1.0					
	min	6.3	5.13	0.66	0.71	2.1	5.9	0.41	1.32		0.46	3.9	0.8					
mil	max	264	218	34	44	98	248	24	68	91 typ.	22	169	47	71 typ.	51 typ.	126 ref.	190 ref.	71 ref.
	typ	260	210	30	36	91	240	20	60		20	161	39					
	min	248	202	26	28	83	232	16	52		18	154	31					

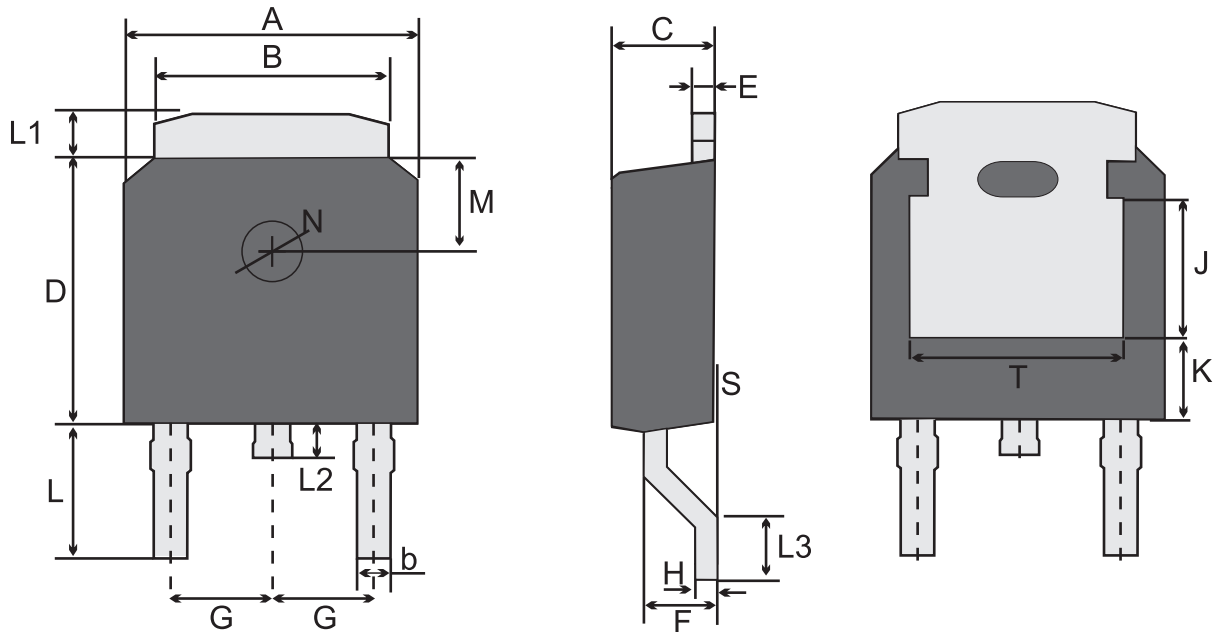
Marking Diagram



- Unmarkable Surfacea
- Marking Composition Field
- A: Marking Area
- B: Lot Code
- C: Additional Information
- D: Date Code (YWW)
- Y: Years(0~9)
- WW: Week



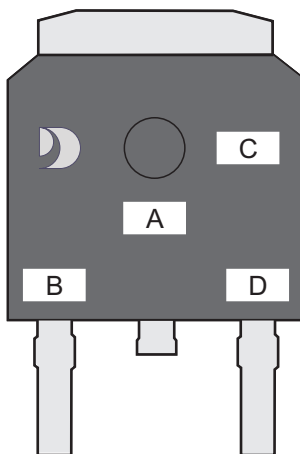
TO-252W(D-PAK) Package Outline Dimensions



TO-252W(D-PAK) Mechanical data

UNIT		A	B	b	C	D	E	F	G	H	L	L1	L2	L3	S	M	N	J	T	K
mm	max	6.7	5.53	0.86	2.5	6.3	0.61	1.87	2.3 typ.	0.55	3.0	1.2	1.0	1.75	0.23	1.8 typ.	1.3 typ.	3.2 ref.	4.83 ref.	1.8 ref.
	typ	6.6	5.33	0.76	2.3	6.1	0.51	1.57		0.50	2.8	1.0	0.8	1.30	0.15					
	min	6.3	5.13	0.66	2.1	5.9	0.41	1.27		0.45	2.6	0.8	0.6	1.0	/					
mil	max	264	218	34	98	248	24	74	91 typ.	22	118	47	39	69	9.1	71 typ.	51 typ.	126 ref.	190 ref.	71 ref.
	typ	260	210	30	91	240	20	62		20	110	39	31	51	5.9					
	min	248	202	26	83	232	16	50		18	102	31	24	39	/					

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