

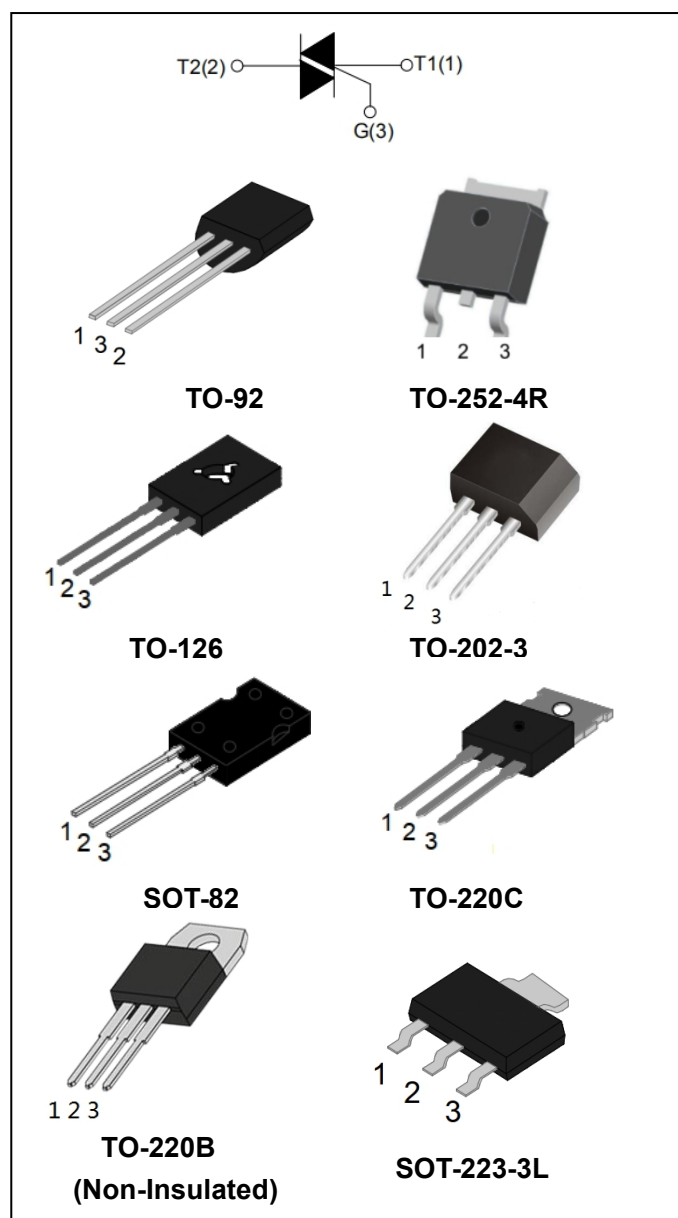


Jiangsu Weida Semiconductor Co., Ltd.

BT134 Series 4A Triacs

DESCRIPTION:

With low holding and latching current, BT134 Series triacs are especially recommended for use on middle and small resistance type power load.



MAIN FEATURES:

symbol	value	unit
$I_{T(RMS)}$	4	A
V_{DRM}/V_{RRM}	600/800	V
V_{TM}	≤ 1.7	V

ABSOLUTE MAXIMUM RATINGS:

Parameter	Symbol	Value	Unit
Storage junction temperature range	T_{stg}	-40~150	°C
Operating junction temperature range	T_j	-40~125	°C
Repetitive peak off-state voltage ($T_j=25^\circ\text{C}$)	V_{DRM}	600/800	V
Repetitive peak reverse voltage ($T_j=25^\circ\text{C}$)	V_{RRM}	600/800	V
RMS on-state current	$I_{T(RMS)}$	4	A



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Non repetitive surge peak on-state current (full cycle, F=50Hz)		I_{TSM}	25	A
I^2t value for fusing ($t_p=10ms$)		I^2t	3.1	A^2s
Critical rate of rise of on-state current ($I_G=2 \times I_{GT}$)	di/dt	I - II - III	50	$A/\mu s$
		IV	10	
Peak gate current		I_{GM}	2	A
Average gate power dissipation		$P_{G(AV)}$	0.5	W
Peak gate power		P_{GM}	5	W

ELECTRICAL CHARACTERISTICS ($T_j=25^\circ C$ unless otherwise specified)

Parameter	Test Condition	Quadrant		Value			Unit
				T	D	E	
I_{GT}	$V_D=12V$, $R_L=33\Omega$	I - II - III	MAX	5	5	10	mA
		IV		5	10	25	
V_{GT}		I - II - III - IV		1.3			V
V_{GD}	$V_D=V_{DRM}$	I - II - III - IV	MIN	0.2			V
I_H			MAX	5	10	20	mA
I_L	$I_G=1.2I_{GT}$	I - III - IV	MAX	8	10	20	mA
		II		12	15	35	
dV/dt	$V_D=0.66 \times V_{DRM}$ $T_j=125^\circ C$ Gate open		MIN	10	20	50	$V/\mu s$

STATIC CHARACTERISTICS

Symbol	Test Condition			Value	Unit
V_{TM}	$I_{TM}=5A$ $t_p=380\mu s$	$T_j=25^\circ C$	MAX	1.7	V
I_{DRM} I_{RRM}	$V_{DRM}=V_{RRM}$	$T_j=25^\circ C$	MAX	5	μA
		$T_j=125^\circ C$		0.5	mA



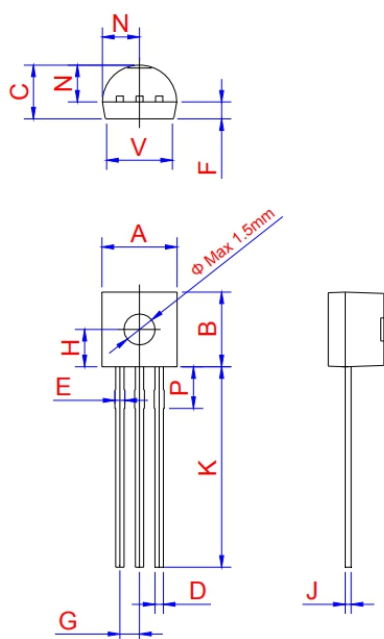
THERMAL RESISTANCES

Symbol	Test Condition		Value	Unit
$R_{th(j-c)}$	junction to case(AC)	TO-252-4R	3.8	°C/W
		SOT-223	3.9	
		TO-220B(Non-Ins)/ TO-220C	3.2	
		TO-202-3	4.6	
		TO-126/SOT-82	4.2	
		TO-92	11.3	

ORDERING INFORMATION

<p>BT</p> <p>Triacs</p>	<p>134-600</p> <p>$I_{T(RMS)}:4A$</p>	<p>D</p> <p>V_{DRM}, V_{RRM}:</p> <p>600: 600V</p> <p>800: 800V</p>	<p>D</p> <p>T: $I_{GT1-3} \leq 5mA, I_{GT4} \leq 5mA$</p> <p>D: $I_{GT1-3} \leq 5mA, I_{GT4} \leq 10mA$</p> <p>E: $I_{GT1-3} \leq 10mA, I_{GT4} \leq 25mA$</p>
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PACKAGE MECHANICAL DATA

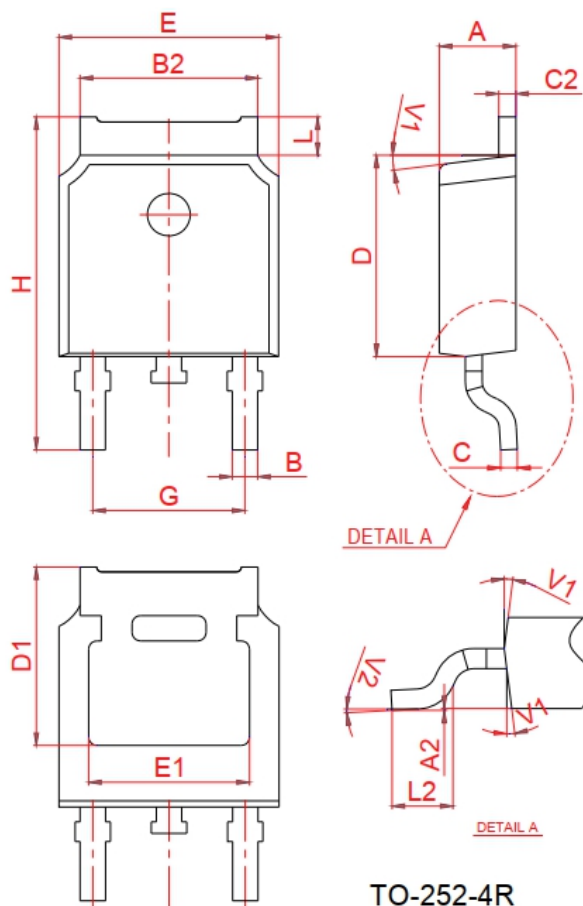


TO-92

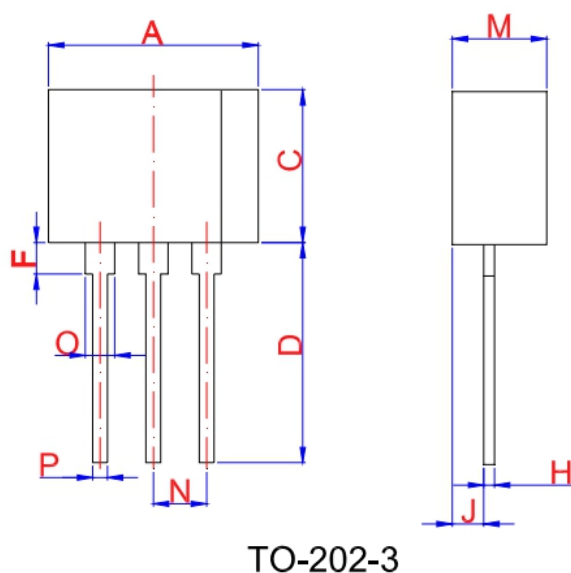
Ref.	Dimensions					
	Millimeters			Inches		
	Min.	Typ.	Max.	Min.	Typ.	Max.
A	4.45	4.6	5.2	0.175	0.181	0.205
B	4.32	4.6	5.33	0.17	0.181	0.21
C	3.18	3.55	4.19	0.125	0.14	0.165
D	0.407		0.533	0.016		0.021
E	0.6		0.8	0.024	0	0.031
F	-	1.1	-	-	0.043	-
G	-	1.27	-	-	0.05	-
H	-	2.3	-	-	0.091	-
J	0.36	0.38	0.5	0.014	0.015	0.02
K	12.7		15	0.5		0.591
N	2.04	2.3	2.66	0.08	0.091	0.105
P	1.86		2.06	0.073		0.081
V	-		4.3	-		0.169



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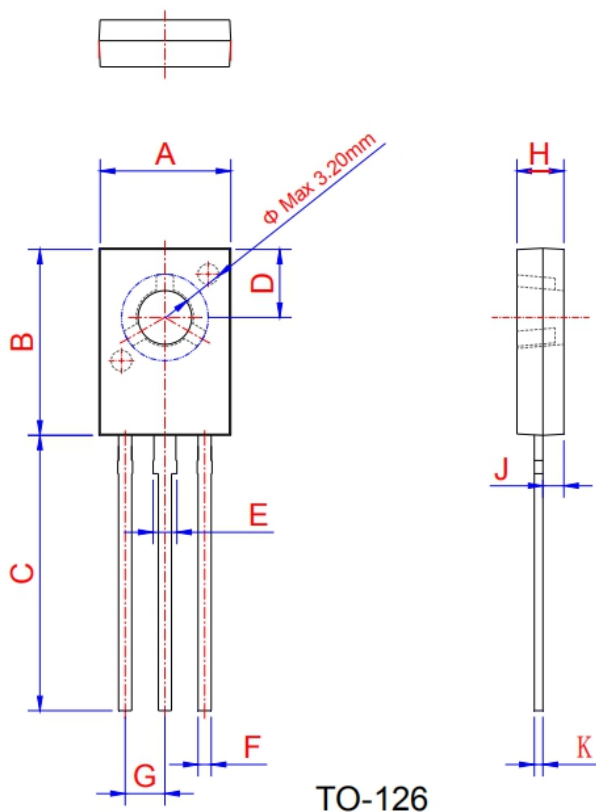
Ref.	Dimensions					
	Millimeters			Inches		
	Min.	Typ.	Max.	Min.	Typ.	Max.
A	2.2		2.4	0.087		0.094
A2	0		0.1	0		0.004
B	0.66		0.86	0.026		0.034
B2	5.1		5.46	0.201		0.215
C	0.46		0.58	0.018		0.023
C2	0.44		0.58	0.017		0.023
D	5.9		6.3	0.232		0.248
D1	5.30REF			0.211REF		
E	6.4		6.8	0.252		0.268
E1	4.63			0.182		
G	4.372		4.772	0.172		0.188
H	9.8		10.4	0.386		0.409
L	1.09		1.21	0.043		0.048
L2	1.35		1.65	0.053		0.065
V1		7°			7°	
V2	0°		6°	0°		6°



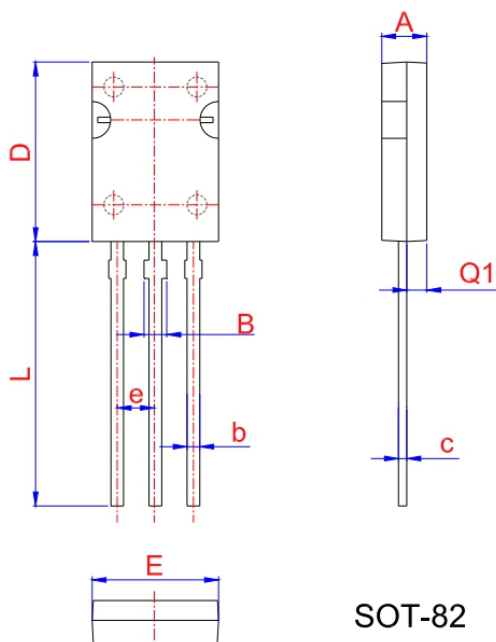
Ref.	Dimensions					
	Millimeters			Inches		
	Min.	Typ.	Max.	Min.	Typ.	Max.
A	9.30		9.90	0.366		0.39
C	7.00		7.60	0.276		0.299
D	10.5		11.50	0.413		0.453
F	1.50		2.50	0.059		0.098
H	0.45		0.55	0.018		0.022
J	1.50		1.90	0.059		0.075
M	4.40		4.70	0.173		0.185
N	2	2.54			0.100	
O	1.20		1.50	0.047		0.059
P	0.60		0.80	0.024		0.031



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Ref.	Dimensions					
	Millimeters			Inches		
	Min.	Typ.	Max.	Min.	Typ.	Max.
A	7.4		7.8	0.291		0.307
B	10.6		11.2	0.417		0.441
C	15.3		16.3	0.602		0.642
D	3.9		4.1	0.154		0.161
E	1.17		1.47	0.046		0.058
F	0.66		0.86	0.026		0.034
G		2.29			0.09	
H	2.5		2.9	0.098		0.114
K	0.45		0.6	0.018		0.024

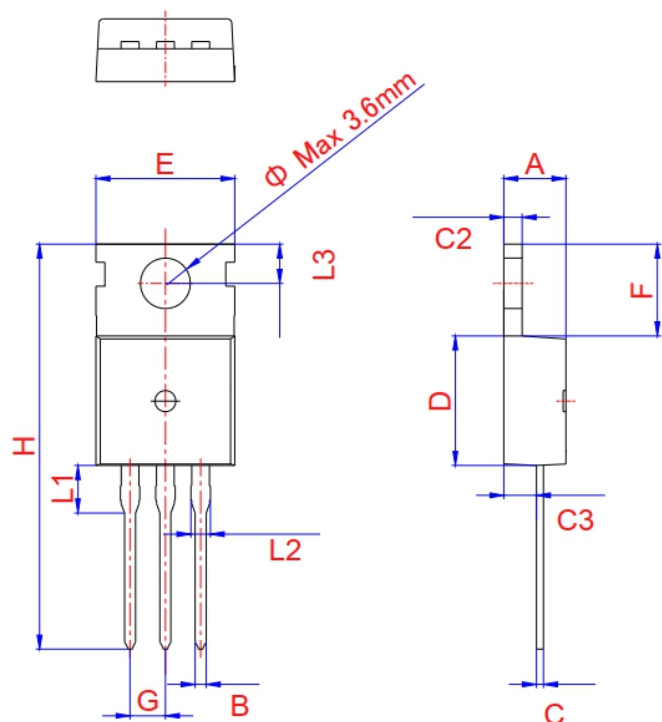


Ref.	Dimensions					
	Millimeters			Inches		
	Min.	Typ.	Max.	Min.	Typ.	Max.
A	2.45	2.55	2.65	0.096	0.100	0.104
b	0.71	0.76	0.81	0.028	0.030	0.032
B	1.27	1.37	1.45	0.050	0.054	0.057
c	0.48	0.50	0.52	0.019	0.020	0.021
D	10.60	10.80	11.00	0.417	0.425	0.433
E	7.30	7.5	7.70	0.287	0.295	0.303
e	2.24	2.29	2.34	0.088	0.090	0.092
L	15.30	15.60	15.90	0.602	0.614	0.626
Q1	1.17	1.27	1.37	0.046	0.050	0.054



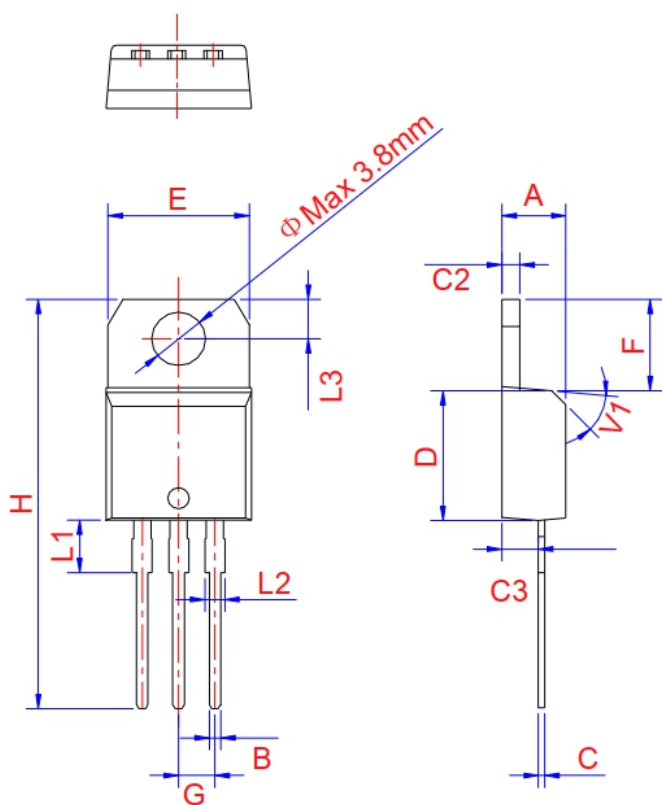
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TO-220C

Ref.	Dimensions					
	Millimeters			Inches		
	Min.	Typ.	Max.	Min.	Typ.	Max.
A	4.3		4.5	0.169		0.177
B	0.7		0.9	0.028		0.035
C	0.45		0.6	0.018		0.024
C2	1.23	1.30	1.32	0.048	0.051	0.052
C3	2.2		2.6	0.087		0.102
D	8.9		9.9	0.35		0.39
E	9.9	10.1	10.3	0.39	0.398	0.406
F	6.3		6.9	0.248		0.272
G		2.54			0.1	
H	28		29.8	1.102		1.173
L1		3.39			0.133	
L2	1.14		1.7	0.045		0.067
L3	2.65		2.95	0.104		0.116
Φ		3.6			0.142	

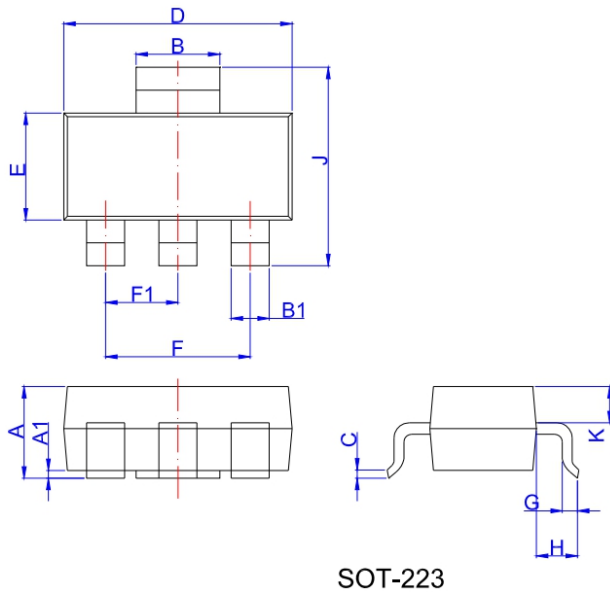


TO-220B Non-Ins

Ref.	Dimensions					
	Millimeters			Inches		
	Min.	Typ.	Max.	Min.	Typ.	Max.
A	4.4	4.47	4.6	0.173	0.176	0.181
B	0.61		0.88	0.024		0.035
C	0.46	0.50	0.7	0.018	0.02	0.028
C2	1.21	1.27	1.32	0.048	0.050	0.052
C3	2.4		2.72	0.094		0.107
D	8.6		9.7	0.339		0.382
E	9.8		10.4	0.386		0.409
F	6.55		6.95	0.258		0.274
G		2.54			0.1	
H	28		29.8	1.102		1.173
L1		3.75			0.148	
L2	1.14		1.7	0.045		0.067
L3	2.65		2.95	0.104		0.116
V1		45°			45°	



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Ref.	Dimensions					
	Millimeters			Inches		
	Min.	Typ.	Max.	Min.	Typ.	Max.
A	1.5	1.6	1.8	0.059	0.063	0.071
A1	0.01	0.06	0.10	0.001	0.002	0.004
B	2.9	3.0	3.1	0.114	0.118	0.122
B1	0.6	0.7	0.8	0.024	0.028	0.031
C	0.22	0.25	0.32	0.009	0.010	0.013
D	6.3	6.5	6.7	0.248	0.256	0.264
E	3.3	3.5	3.7	0.130	0.138	0.146
F		4.6	6.8	0.252	0.181	
F1		2.3			0.091	
G	0.7	0.9	1.1	0.028	0.035	0.043
H	1.5	1.75	2.0	0.059	0.069	0.079
J	6.7	7.0	7.3	0.264	0.276	0.287
K	0.8	0.9	1.0	0.031	0.035	0.039

FIG.1: Maximum power dissipation versus RMS on-state current

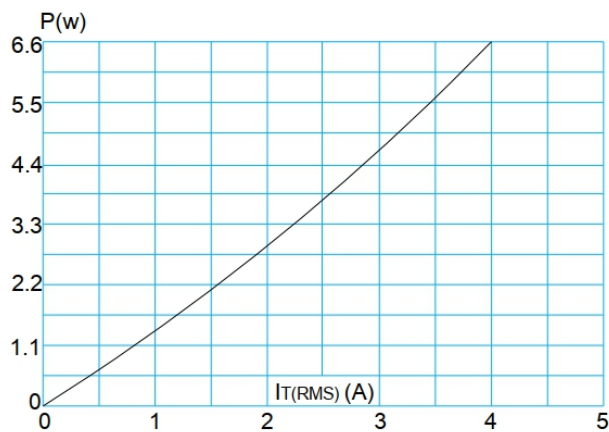
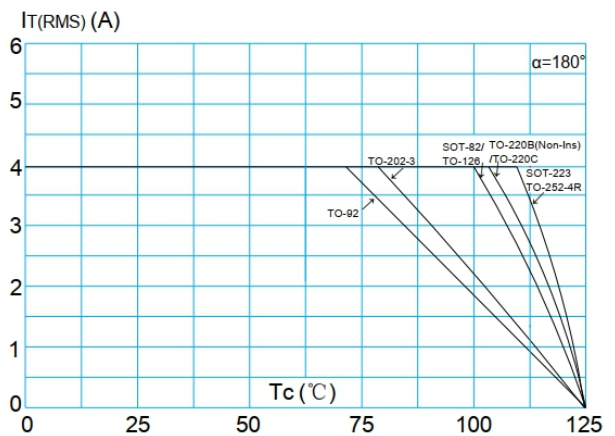


FIG.2: RMS on-state current versus case temperature





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FIG.3: Surge peak on-state current versus number of cycles

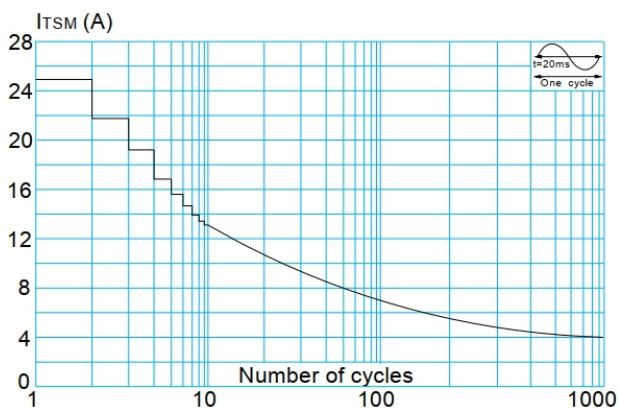


FIG.4: On-state characteristics (maximum values)

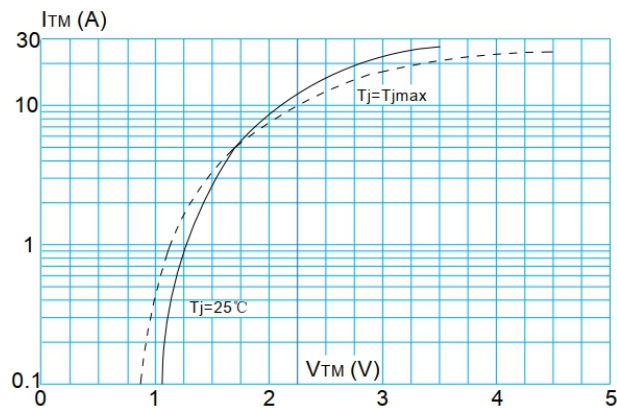


FIG.5: Non-repetitive surge peak on-state current for a sinusoidal pulse with width $t_p < 20\text{ms}$, and corresponding value of I^2t (I - II - III: $dI/dt < 50\text{A}/\mu\text{s}$; IV: $dI/dt < 10\text{A}/\mu\text{s}$)

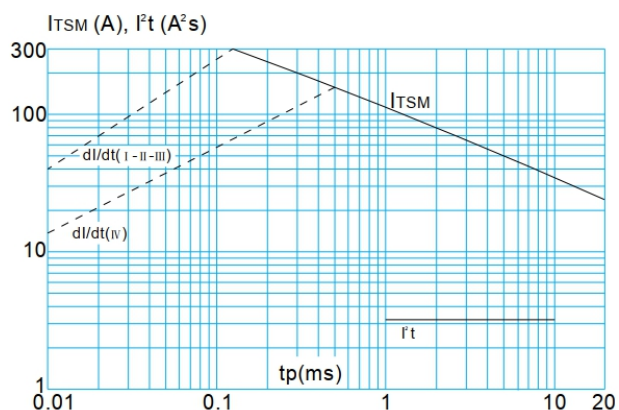


FIG.6: Relative variations of gate trigger current versus junction temperature

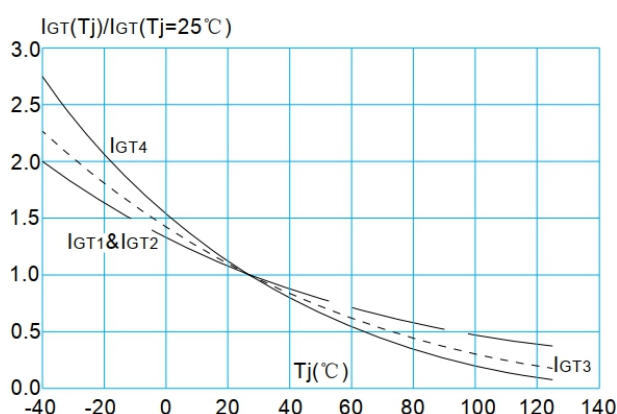


FIG.7: Relative variations of holding current versus junction temperature

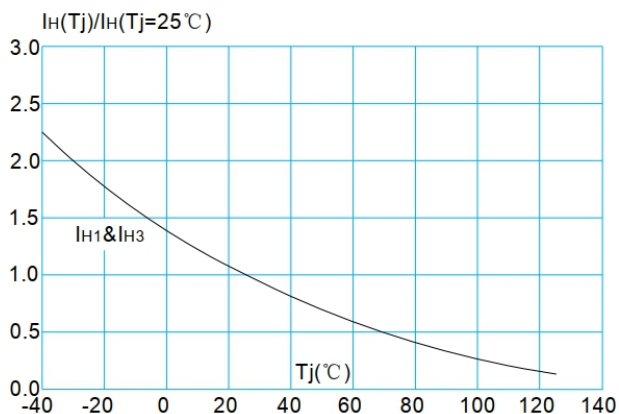
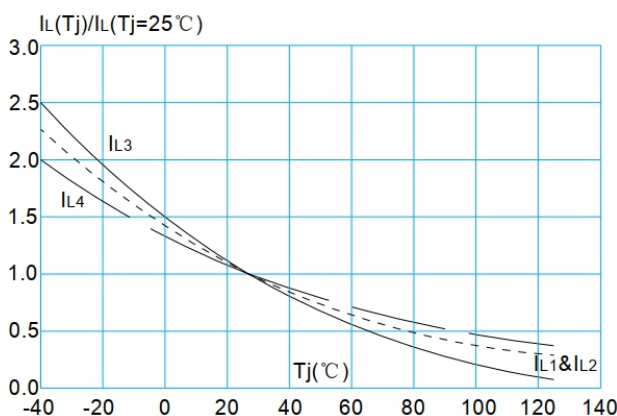


FIG.8: Relative variations of latching current versus junction temperature





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