



## ACJT4 Series 4A TRIACs

Rev.4.0

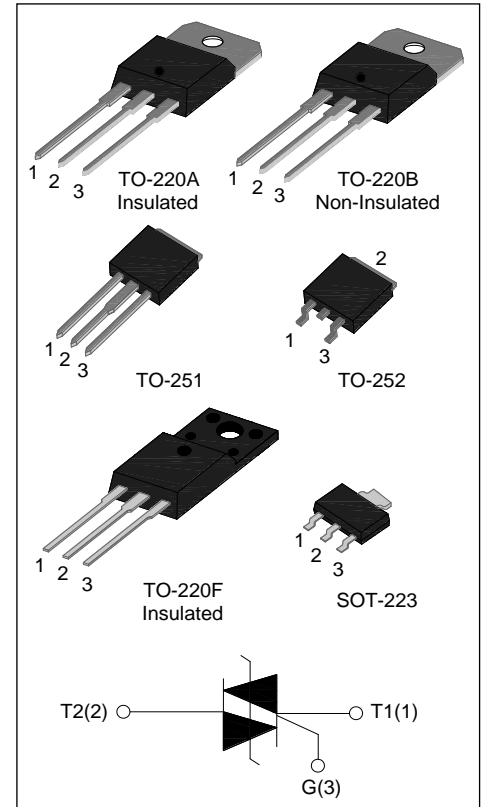
### DESCRIPTION:

The ACJT4 series of double mesa technology provide high interference immunity, They can be used as an static ON/OFF function in electrical control system, and used as a driver of low power and high inductance or resistive loads, such as jet pumps of dishwashers, fans of air-conditioner ...

ACJT4xx-xxA provides insulation voltage rated at 2500V RMS and ACJT4xx-xxF provides insulation voltage rated at 2000V RMS from all three terminals to external heatsink.

### MAIN FEATURES

Symbol	Value	Unit
$I_{T(RMS)}$	4	A
$V_{DRM}/V_{RRM}$	1000	V
$I_{GT}$	$\leq 5$ or $\leq 10$ or $\leq 25$	V/ $\mu$ s



### ABSOLUTE MAXIMUM RATINGS

Parameter		Symbol	Value	Unit
Storage junction temperature range		$T_{stg}$	-40-150	$^{\circ}C$
Operating junction temperature range		$T_j$	-40-125	$^{\circ}C$
Repetitive peak off-state voltage( $T_j=25^{\circ}C$ )		$V_{DRM}$	1000	V
Repetitive peak reverse voltage( $T_j=25^{\circ}C$ )		$V_{RRM}$	1000	V
Non repetitive surge peak Off-state voltage		$V_{DSM}$	$V_{DRM} + 100$	V
Non repetitive peak reverse voltage		$V_{RSM}$	$V_{RRM} + 100$	V
RMS on-state current	TO-251/ TO-252/ TO-220A(Ins) ( $T_C=110^{\circ}C$ )	$I_{T(RMS)}$	4	A
	TO-220B(Non-Ins) ( $T_C=115^{\circ}C$ )			
	TO-220F(Ins)/ SOT-223 ( $T_C=103^{\circ}C$ )			
Non repetitive surge peak on-state current (full cycle, F=50Hz)		$I_{TSM}$	30	A

$I^2t$ value for fusing ( $t_p=10ms$ )	$I^2t$	4.5	$A^2s$
Rate of rise of on-state current ( $I_G=2 \times I_{GT}$ )	$di_T/dt$	50	$A/\mu s$
Peak gate current	$I_{GM}$	1	A
Average gate power dissipation	$P_{G(AV)}$	0.1	W
Peak gate power	$P_{GM}$	1	W

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

Symbol	Test Condition	Quadrant		Value			Unit
				ACJT405	ACJT410	ACJT425	
$I_{GT}$	$V_D=12V R_L=33\Omega$	I - II - III	MAX	5	10	25	mA
$V_{GT}$		I - II - III	MAX	1.3	1.4	1.5	V
$V_{GD}$	$V_D=V_{DRM} T_j=125^\circ C$ $R_L=3.3K\Omega$	I - II - III	MIN	0.2			V
$I_L$	$I_G=1.2I_{GT}$	I - III	MAX	15	30	40	mA
		II		20	45	60	
$I_H$	$I_T=100mA$		MAX	10	25	35	mA
$dV/dt$	$V_D=2/3V_{DRM}$ Gate Open $T_j=125^\circ C$		MIN	300	600	1000	$V/\mu s$

**STATIC CHARACTERISTICS**

Symbol	Parameter		Value(MAX)	Unit
$V_{TM}$	$I_{TM}=5.6A t_p=380\mu s$	$T_j=25^\circ C$	1.55	V
$I_{DRM}$	$V_D=V_{DRM} V_R=V_{RRM}$	$T_j=25^\circ C$	10	$\mu A$
$I_{RRM}$		$T_j=125^\circ C$	1	mA

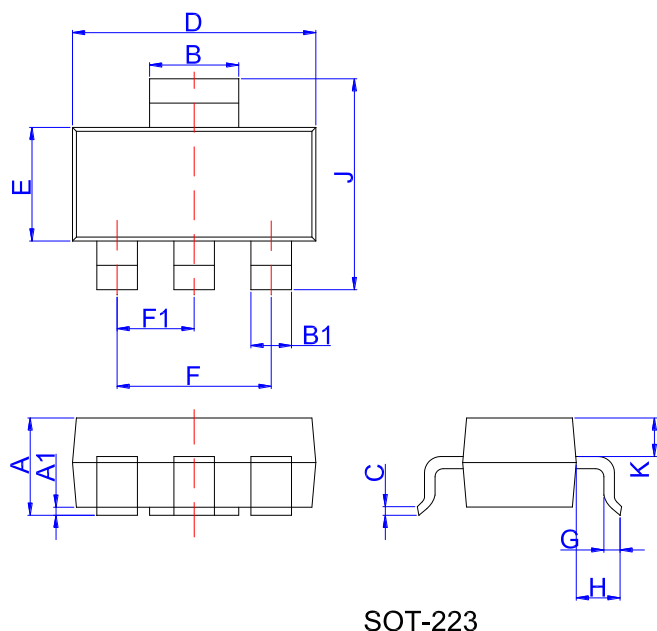
**THERMAL RESISTANCES**

Symbol	Parameter		Value	Unit
$R_{th(j-c)}$	junction to case(AC)	TO-251/ TO-252/ TO-220A(Ins)	3.7	$^\circ C/W$
		TO-220B(Non-Ins)	2.8	
		TO-220F(Ins)/ SOT-223	4.5	

## ORDERING INFORMATION

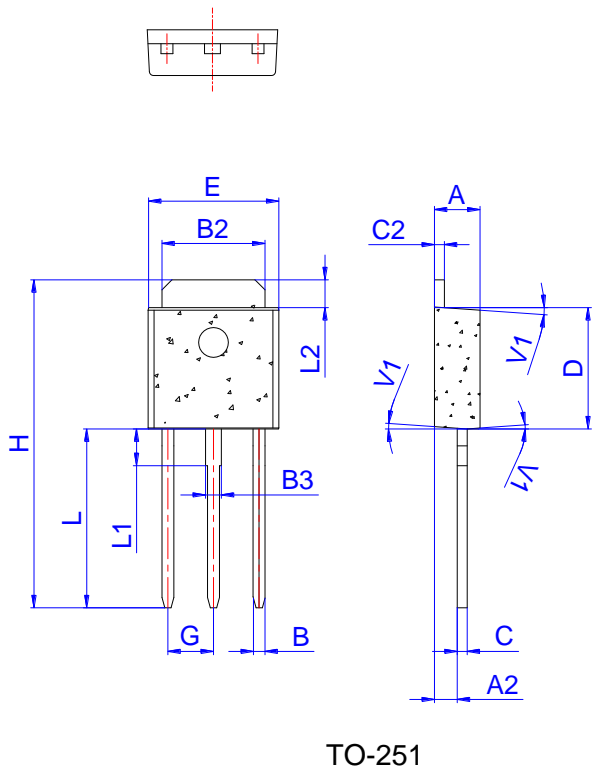
<b>AC</b> AC switch JieJie Microelectronics Co.,Ltd	<b>J</b>	<b>T</b> Triacs $I_{T(RMS)}:4A$	<b>4</b>	<b>05</b> 05: $I_{GT1-3} \leq 5mA$ 10: $I_{GT1-3} \leq 10mA$ 25: $I_{GT1-3} \leq 25mA$	<b>-10</b> 10: $V_{DRM} / V_{RRM} \geq 1000V$	<b>H</b> V:SOT-223 A:TO-220A(Ins) F:TO-220F(Ins) B:TO-220B(Non-Ins) H:TO-251 K:TO-252
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## PACKAGE MECHANICAL DATA

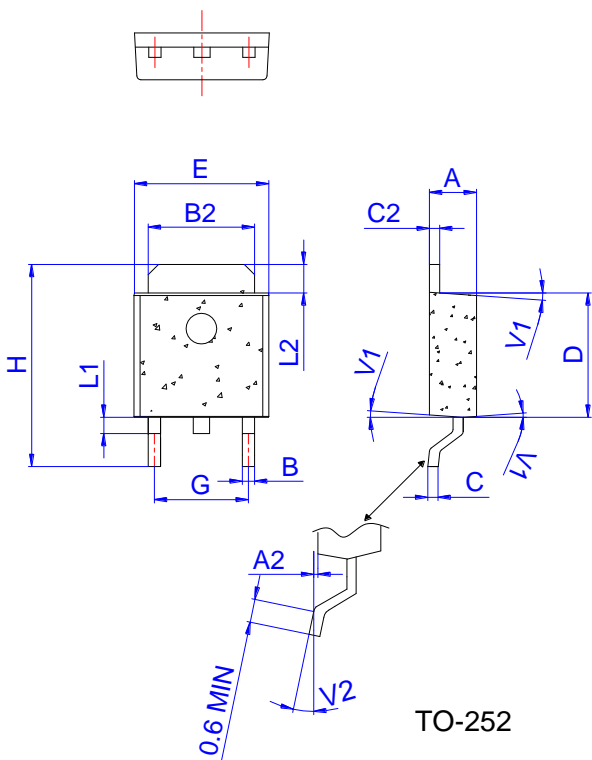


Ref.	Dimensions					
	Millimeters			Inches		
	Min.	Typ.	Max.	Min.	Typ.	Max.
A	1.5	1.6	1.8	0.059	0.063	0.071
A1	0	0.06	0.10	0	0.002	0.004
B	2.9	3.0	3.1	0.114	0.118	0.122
B1	0.6	0.7	0.8	0.024	0.028	0.031
C	0.22	0.26	0.32	0.009	0.010	0.013
D	6.3	6.5	6.7	0.248	0.256	0.264
E	3.3	3.5	3.7	0.130	0.138	0.146
F		4.6			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

PACKAGE MECHANICAL DATA

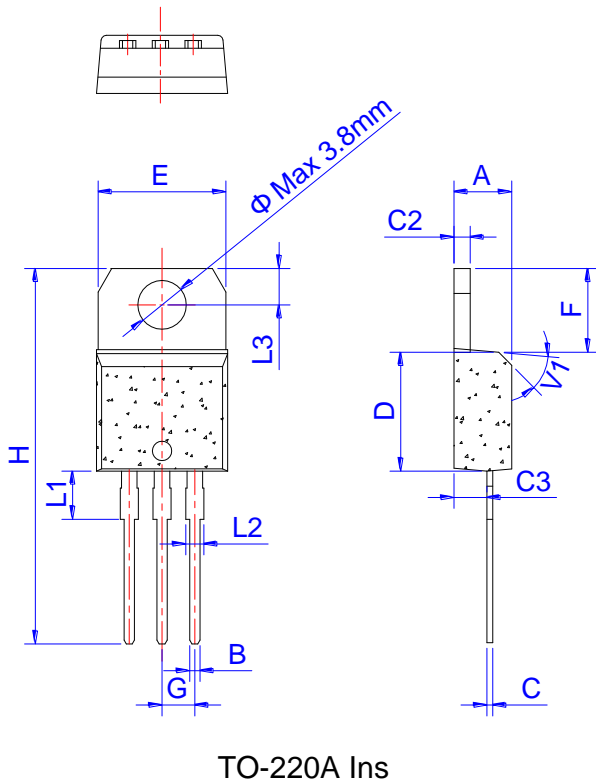


Ref.	Dimensions					
	Millimeters			Inches		
	Min.	Typ.	Max.	Min.	Typ.	Max.
A	2.20		2.40	0.086		0.095
A2	0.90		1.20	0.035		0.047
B	0.55		0.65	0.022		0.026
B2	5.10		5.40	0.200		0.213
B3	0.76		0.85	0.030		0.033
C	0.45		0.62	0.018		0.024
C2	0.48		0.62	0.019		0.024
D	6.00		6.20	0.236		0.244
E	6.40		6.70	0.252		0.264
G		2.30			0.091	
H	16.0		17.0	0.630		0.669
L	8.90		9.40	0.350		0.370
L1	1.80		1.90	0.071		0.075
L2	1.37		1.50	0.054		0.059
V1		4°			4°	

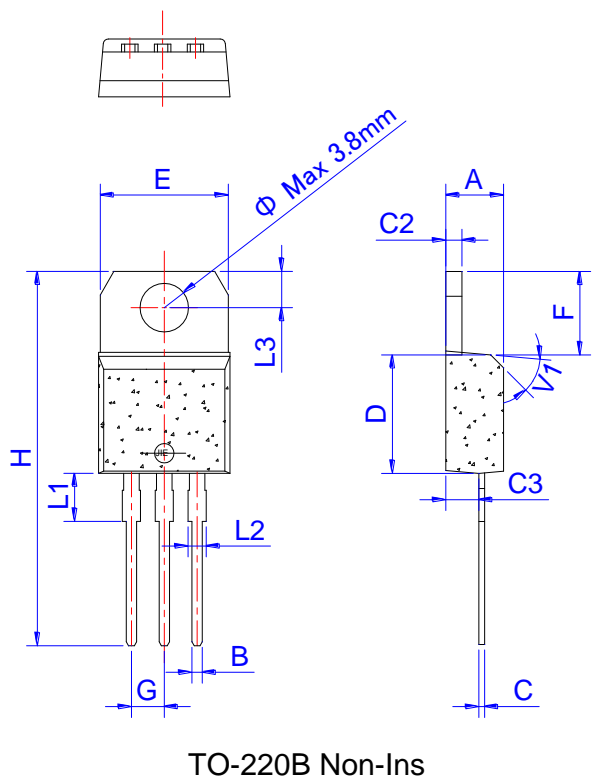


Ref.	Dimensions					
	Millimeters			Inches		
	Min.	Typ.	Max.	Min.	Typ.	Max.
A	2.20		2.40	0.086		0.095
A2	0.03		0.23	0.001		0.009
B	0.55		0.65	0.022		0.026
B2	5.10		5.40	0.200		0.213
C	0.45		0.62	0.018		0.024
C2	0.48		0.62	0.019		0.024
D	6.00		6.20	0.236		0.244
E	6.40		6.70	0.252		0.264
G	4.40		4.70	0.173		0.185
H	9.35		10.6	0.368		0.417
L1	1.30		1.70	0.051		0.067
L2	1.37		1.50	0.054		0.059
V1		4°			4°	
V2		0°	8°		0°	8°

PACKAGE MECHANICAL DATA

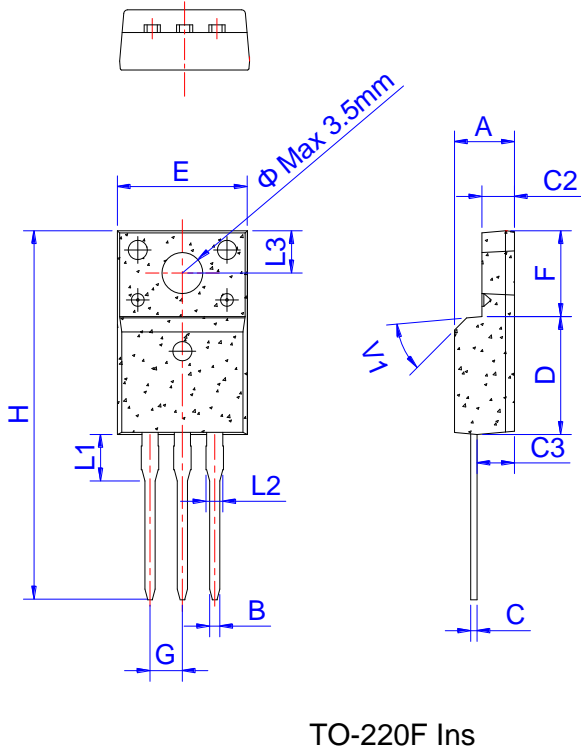


Ref.	Dimensions					
	Millimeters			Inches		
	Min.	Typ.	Max.	Min.	Typ.	Max.
A	4.40		4.60	0.173		0.181
B	0.61		0.88	0.024		0.035
C	0.46		0.70	0.018		0.028
C2	1.21		1.32	0.048		0.052
C3	2.40		2.72	0.094		0.107
D	8.60		9.70	0.339		0.382
E	9.80		10.4	0.386		0.409
F	6.55		6.95	0.258		0.274
G		2.54			0.1	
H	28.0		29.8	1.102		1.173
L1		3.75			0.148	
L2	1.14		1.70	0.045		0.067
L3	2.65		2.95	0.104		0.116
V1		45°			45°	



Ref.	Dimensions					
	Millimeters			Inches		
	Min.	Typ.	Max.	Min.	Typ.	Max.
A	4.40		4.60	0.173		0.181
B	0.61		0.88	0.024		0.035
C	0.46		0.70	0.018		0.028
C2	1.21		1.32	0.048		0.052
C3	2.40		2.72	0.094		0.107
D	8.60		9.70	0.339		0.382
E	9.60		10.4	0.378		0.409
F	6.20		6.60	0.244		0.260
G		2.54			0.1	
H	28.0		29.8	1.102		1.173
L1		3.75			0.148	
L2	1.14		1.70	0.045		0.067
L3	2.65		2.95	0.104		0.116
V1		45°			45°	

PACKAGE MECHANICAL DATA



Ref.	Dimensions					
	Millimeters			Inches		
	Min.	Typ.	Max.	Min.	Typ.	Max.
A	4.40		4.80	0.173		0.189
B	0.74	0.80	0.83	0.029	0.031	0.033
C	0.48		0.75	0.019		0.030
C2	2.40		2.70	0.094		0.106
C3	2.60		3.00	0.102		0.118
D	8.80		9.30	0.346		0.366
E	9.70		10.3	0.382		0.406
F	6.40		7.00	0.252		0.276
G		2.54			0.1	
H	28.0		29.8	1.102		1.173
L1		3.63			0.143	
L2	1.14		1.70	0.045		0.067
L3		3.30			0.130	
V1		45°			45°	

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

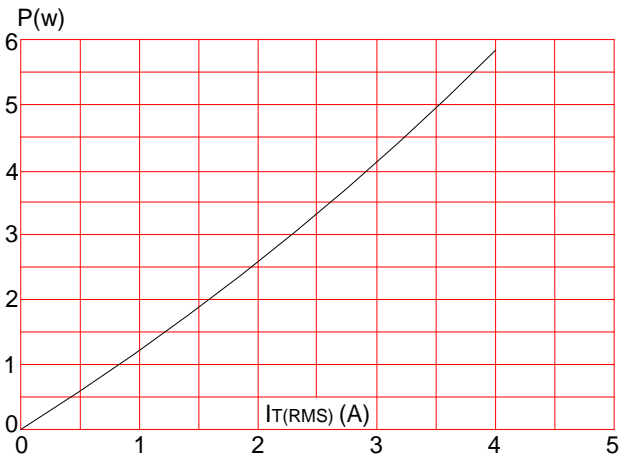
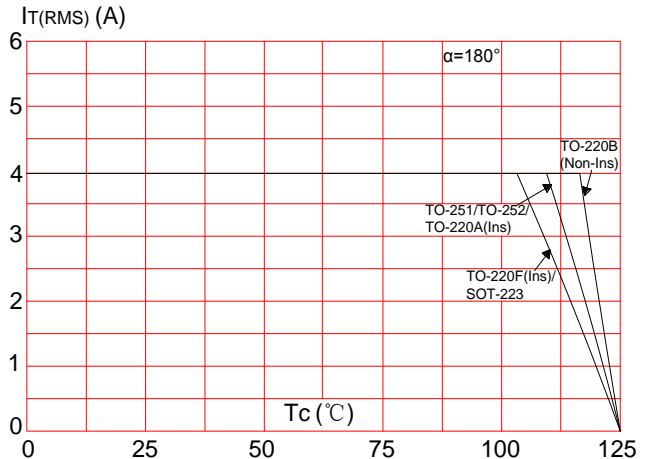
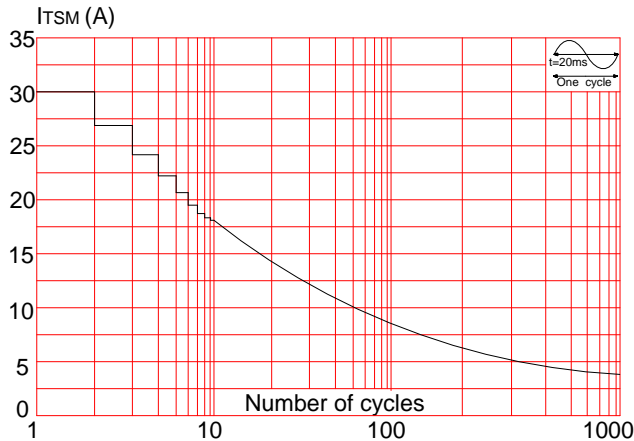


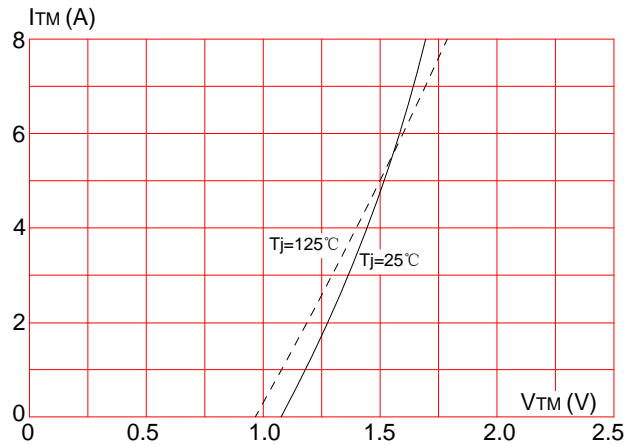
FIG.2: RMS on-state current versus case temperature



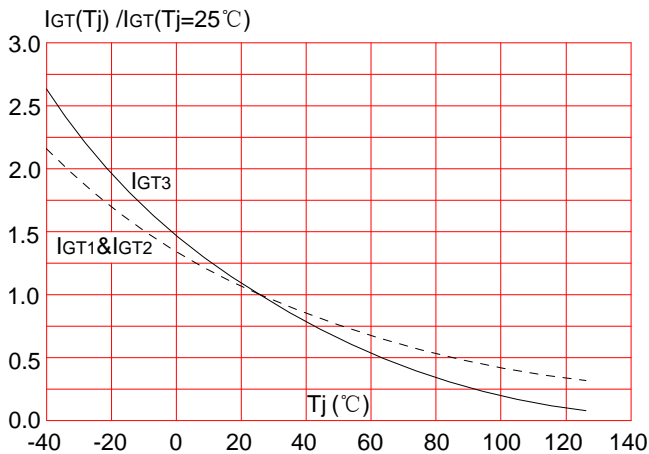
**FIG.3:** Surge peak on-state current versus number of cycles



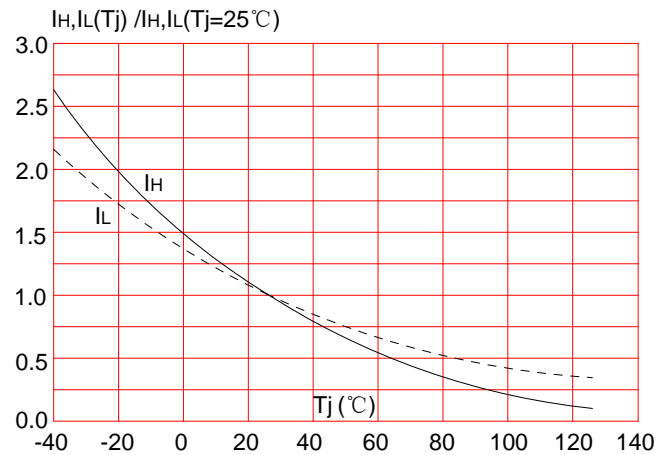
**FIG.4:** On-state characteristics (maximum values)



**FIG.5:** Relative variations of gate trigger current versus junction temperature



**FIG.6:** Relative variations of holding current, latching current versus junction temperature



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