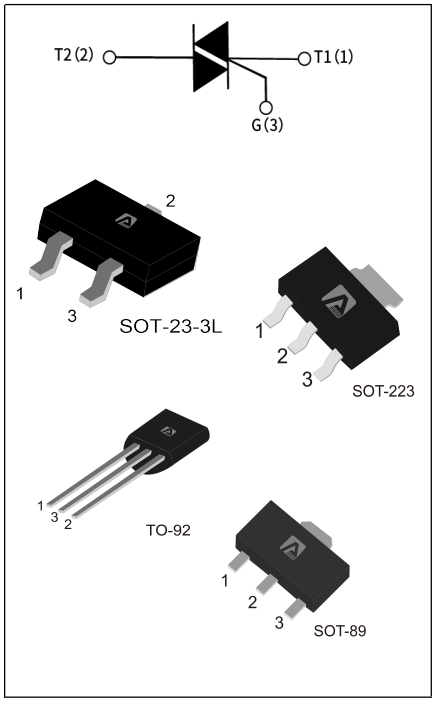
Standard TRIACS Z0607 Serial



GENERAL DESCRIPTION:

The Z0607 series triacs with low holding and latching current are especially recommended for use on middle and small resistance type power load.

Main Features:

$I_{T(RMS)}$	V_{DRM}/V_{RRM}	V_{TM}
0.8A	600V and 700 V	≤1.5V

Absolute Ratings(limiting values) :

Symbol	Parameter		Value	Unit
$I_{T(RMS)}$	RMS on-state current (full sine wave)	TO-92 (TC=50°C)	0.8	A
		SOT-223 (TC=65°C)		
		SOT-23-3L (TC=48°C)		
		SOT-89-2L(TC=60°C)		
I_{TSM}	Non repetitive surge peak on-state current (full cycle, Tj initial = 25°C)	F = 50 Hz t = 20 ms	9	A
Tstg Tj	Storage junction temperature range Operating junction temperature range		- 40 to + 150 - 40 to + 125	°C
I^2t	I^2t value for fusing	tp = 10 ms	0.4	A^2s
dI/dt	Critical rate of rise of on-state current I_G =2 x I_{GT} , tr ≤ 100 ns	F = 120 Hz Tj=125°C	50	A/µs
I_{GM}	Peak gate current	tp = 20 µs Tj = 125°C	1	A
$P_{G(AV)}$	Average gate power dissipation	Tj = 125°C	0.1	W

Electrical Characteristics : (Tj = 25° C, unless otherwise specified)

Symbol	Test Condition	Quadrant	Range	Z06	Unit
				07	
I_{GT}(1)	V_D=12V R_L=33Ω	I-II-III-IV	MAX	5	mA
V_{GT}		ALL	MAX	1.3	V
V_{GD}	V_D=V_{DRM} R_L=3.3kΩ T_j=125°C	ALL	MIN	0.2	V
I_L	I_G=1.2 I_{GT}	I-III-IV	MAX	5	mA
		II		15	
I_H(2)	I_T= 50mA		MAX	5	mA
dV/dt(2)	V_D=66.7%V_{DRM} Gate Open T_j=125°C		MIN	5	V/μs

1. minimum I_{GT} is guaranted at 5% of I_{GT} max.
2. for both polarities of A2 referenced to A1.

Static Characteristics

Symbol	Parameter		Value(MAX)	Unit
V_{TM}[1]	I_{TM}= 5.5A tp= 380μs	T_j=25°C	2.0	V
I_{DRM}	V_D=V_{DRM} ,V_R=V_{RRM}	T_j=25°C	5	μ A
I_{RRM}		T_j=125°C	0.5	mA

1. for both polarities of A2 referenced to A1.

Thermal Resistances :

Symbol	Parameter		Value	Unit
$R_{th(j-c)}$	Junction to case(AC)	TO-92	75	°C/W
		SOT-89	60	
		SOT-223	45	
		SOT-23-3L	45	

Fig.1: Maximum power dissipation versus RMS on-state current(full cycle)

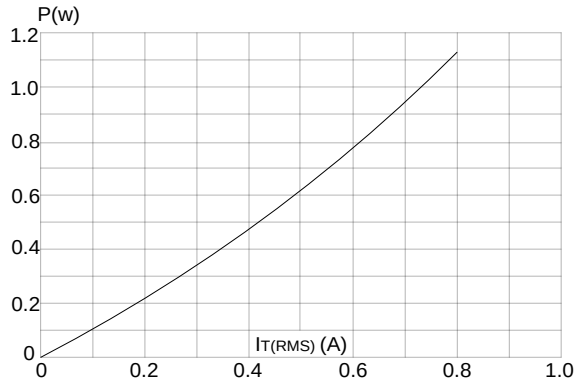


Fig.2 : RMS on-state current versus case temperature(full cycle)

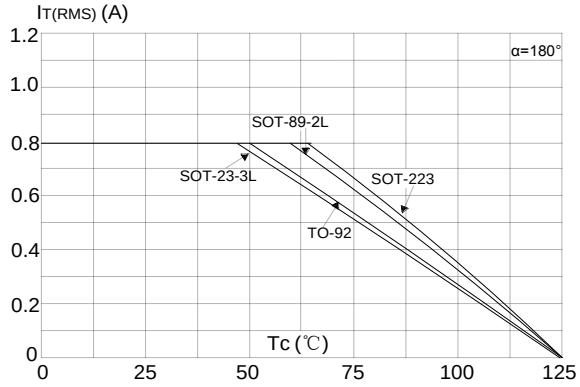


Fig.3 : Relative variation of thermal impedance versus pulse duration

Figure 3. Relative variation of critical rate of decrease of main current versus junction temperature

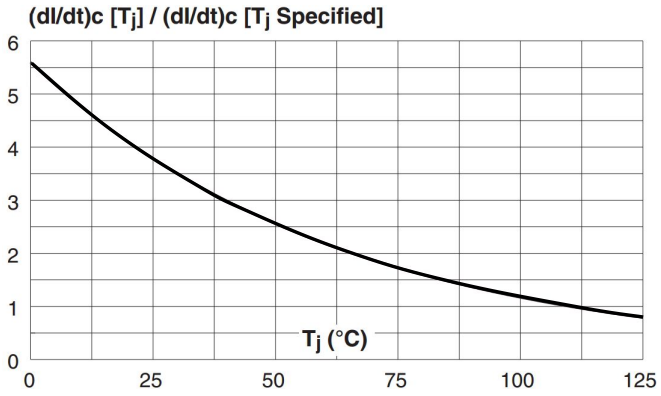


Fig.4 : Relative variation of gate trigger current, holding current and latching current versus junction temperature (typical values)

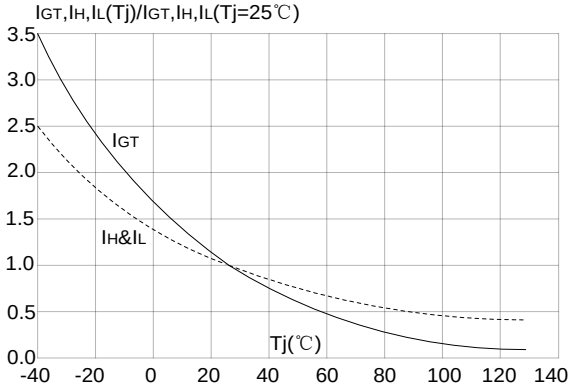


Fig.5 : Surge peak on-state current versus number of cycles

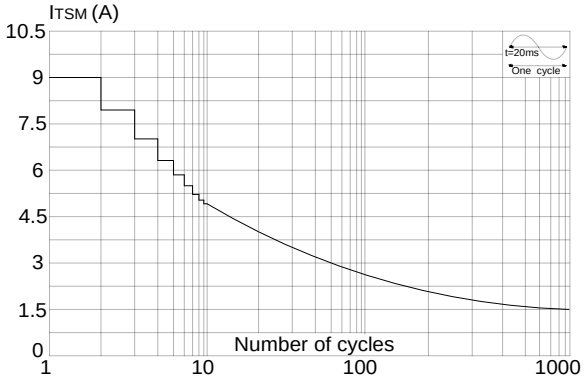


Fig.6: Non-repetitive surge peak on-state current for a sinusoidal pulse with width tp < 10 ms and corresponding value of I^2t

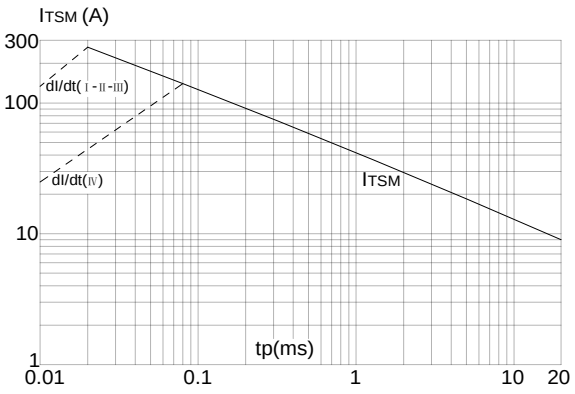


Figure 7. On-state characteristics (maximum values)

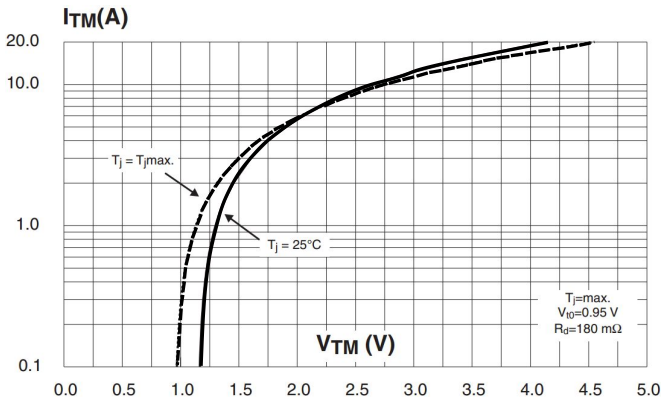
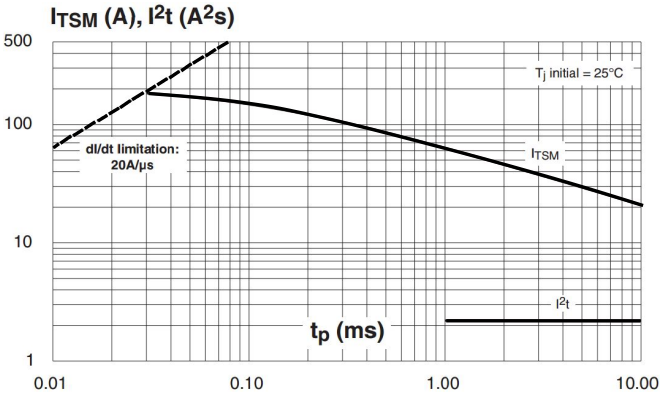
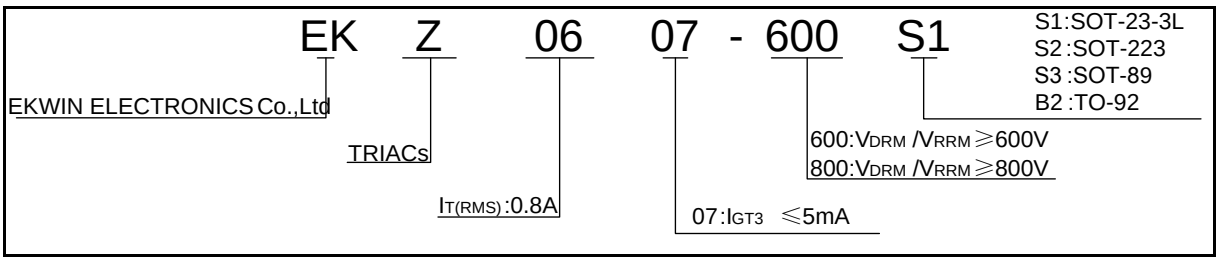


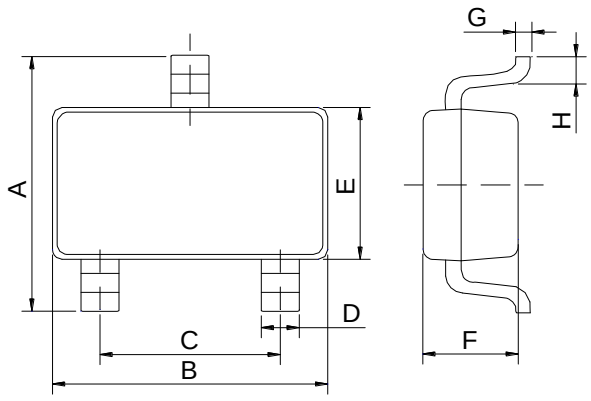
Figure 8. Relative variation of critical rate of decrease of main current versus(dV/dt)c (typical values)



Ordering Information:

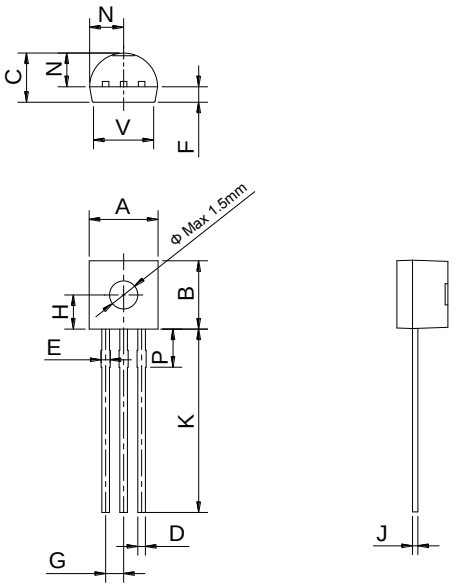


Package Mechanical Data :



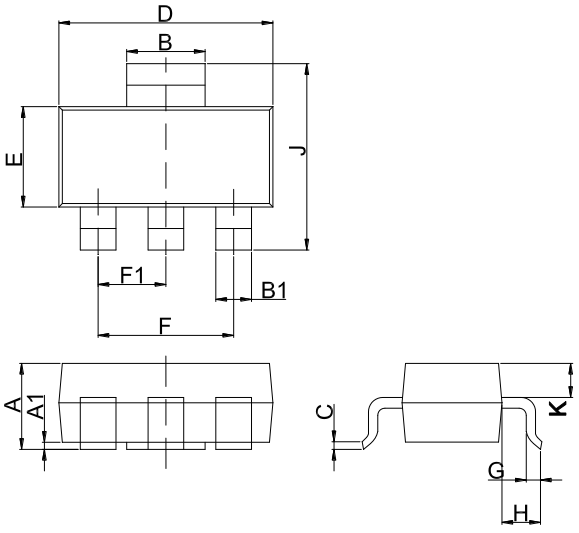
SOT-23-3L

Ref.	Dimensions					
	Millimeters			Inches		
	Min.	Typ.	Max.	Min.	Typ.	Max.
A	2.65		2.95	0.104		0.116
B		2.92			0.115	
C		1.90			0.075	
D	0.34		0.36	0.013		0.014
E		1.60			0.063	
F		1.17			0.046	
G		0.15			0.006	
H	0.25		0.55	0.010		0.022



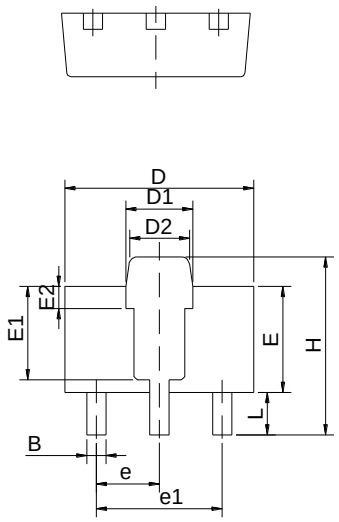
TO-92

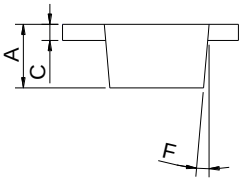
Ref.	Dimensions					
	Millimeters			Inches		
	Min.	Typ.	Max.	Min.	Typ.	Max.
A	4.45		5.20	0.175		0.205
B	4.32		5.33	0.170		0.210
C	3.18		4.19	0.125		0.165
D	0.407		0.533	0.016		0.021
E	0.60		0.80	0.024		0.031
F	-	1.1	-	-	0.043	-
G	-	1.27	-	-	0.050	-
H	-	2.30	-	-	0.091	-
J	0.36		0.50	0.014		0.020
K	12.70		15.0	0.500		0.591
N	2.04		2.66	0.080		0.105
P	1.86		2.06	0.073		0.081
V	-		4.3	-		0.169



SOT-223

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





SOT-89

Ref.	Dimensions					
	Millimeters			Inches		
	Min.	Typ.	Max.	Min.	Typ.	Max.
A	1.40		1.60	0.055		0.063
B	0.40		0.52	0.016		0.020
C	0.35		0.41	0.014		0.016
D	4.40		4.60	0.173		0.181
D1	1.50		1.70	0.059		0.067
D2	1.30		1.50	0.051		0.059
E	2.40		2.60	0.094		0.102
E1		2.20			0.087	
E2		0.52			0.020	
e		1.50			0.059	
e1		3.00			0.118	
F		5°			0.197°	
H	4.05		4.25	0.159		0.167
L	0.89		1.20	0.035		0.047