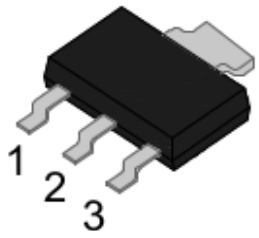
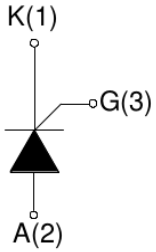
Continental Device India Pvt. Limited
An ISO/TS 16949, ISO 9001 and ISO 14001 Certified Company

SENSITIVE GATE SCR





BT168GW
SOT-223
Plastic Package

BT168GW SCR provides high dv/dt rate with strong resistance to electromagnetic interface. It is specially recommended for use on residual current circuit breaker, straigh hair, igniter etc.

ABSOLUTE MAXIMUM RATINGS

PARAMETER	SYMBOL	VALUE	UNIT
Storage junction temperature range	T_{stg}	-40 to 150	ºC
Operating junction temperature range	T_j	-40 to 110	ºC
Repetitive peak off-state voltage	V_{DRM}	800	V
Repetitive peak reverse voltage	V_{RRM}	800	V
RMS on-state current (T_c=75ºC)	$I_{T(RMS)}$	1	A
Non repetitive surge peak on-state current (t_P=10ms)	I_{TSM}	12	A
I^2t value for fusing (t_P=10ms)	I^2t	0.72	A^2s
Critical rate of rise of on-state current	dI/dt	50	A/µs
Peak gate current (t_P=20µs, T_j=110ºC)	I_{GM}	0.3	A
Peak gate power (t_P=20µs, T_j=110ºC)	P_{GM}	0.5	W
Average gate power dissipation (T_j=110ºC)	$P_{G(AV)}$	0.1	W

ELECTRICAL CHARACTERISTICS (T_j=25ºC unless otherwise specified)

PARAMETER	SYMBOL	TEST CONDITION	VALUE			UNIT
			MIN.	TYP.	MAX.	
Gate Trigger Current	I_{GT}	V_D=12V, R_L=33Ω	-	40	200	µA
Gate Trigger Voltage	V_{GT}		-	0.6	0.8	V
Non-trigger gate voltage	V_{GD}	$V_D=V_{DRM}$, T_j=110ºC	0.2	-	-	V
Latching Current	I_L	$I_G=1.2I_{GT}$	-	-	5	mA
Holding Current	I_H	I_T=0.05A	-	-	4	mA
Critical rate of rise of off-state voltage	dV/dt	$V_D=2/3V_{DRM}$, T_j=110ºC, R_{GK}=1kΩ	100	200	-	V/µA

STATIC CHARACTERISTICS

PARAMETER	SYMBOL	TEST CONDITIONS		VALUE (MAX.)	UNIT
Peak on-state voltage drop	V_{TM}	I_T=2A, t_P=380µs	T_j=25ºC	1.7	V
Maximum forward leakage current	I_{DRM}	$V_D=V_{DRM}$, $V_R=V_{RRM}$	T_j=25ºC	5	µA
Maximum reverse leakage current	I_{RRM}		T_j=110ºC	100	µA

THERMAL RESISTANCE

PARAMETER	SYMBOL	VALUE	UNIT
Thermal resistance junction to case	$R_{th(j-c)}$	25	ºC/W

CHARACTERISTICS CURVES

FIG.1: Maximum power dissipation versusRMS on-state current

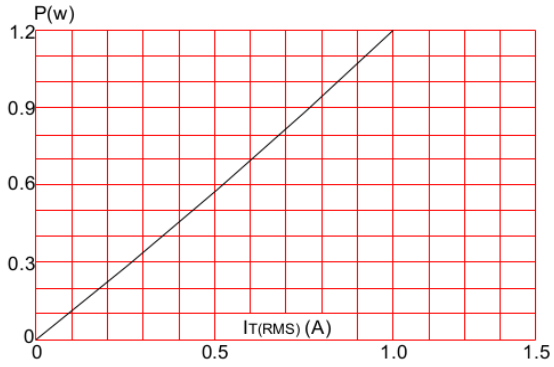


FIG.2: RMS on-state current versus case temperature

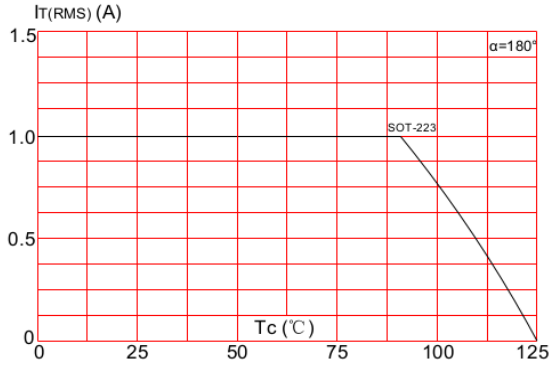


FIG.3: Surge peak on-state current versus number of cycles

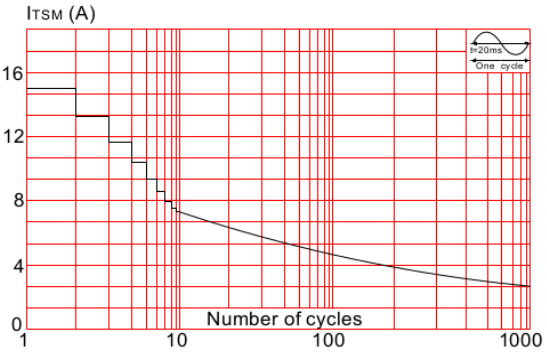


FIG.4: On-state characteristics (maximum values)

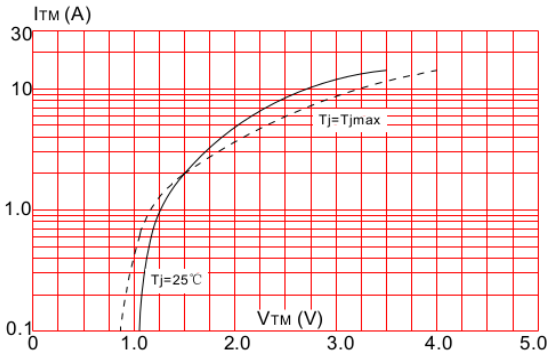


FIG.5: Relative variation of gate trigger current versus junction temperature

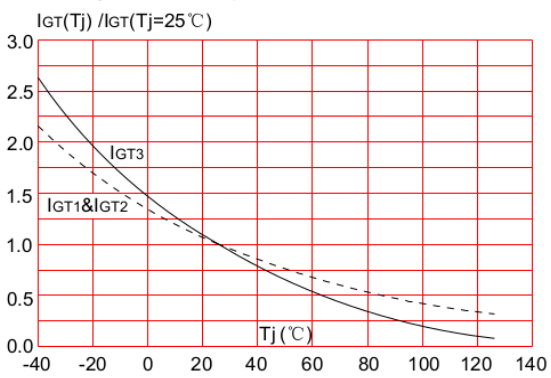
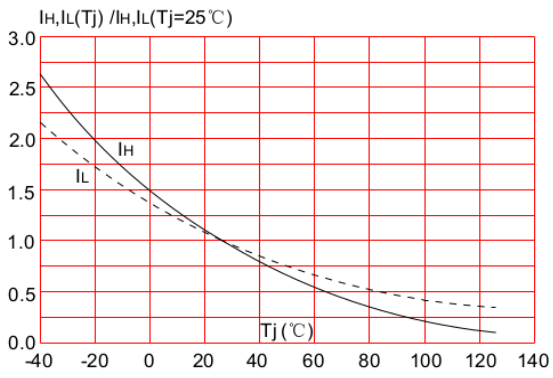
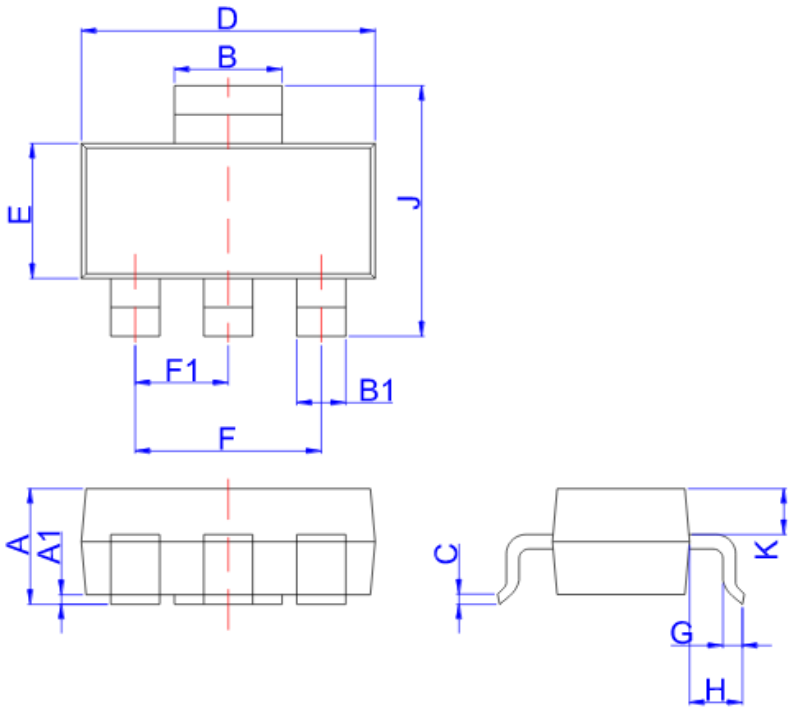


FIG.6: Relative variation of holding current, latching current versus junction temperature



SOT-223 PACKAGE OUTLINE AND DIMENSIONS



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

Customer Notes:

Component Disposal Instructions

1. CDIL Semiconductor Devices are RoHS compliant, customers are requested to please dispose as per prevailing Environmental Legislation of their Country.

2. In Europe, please dispose as per EU Directive 2002/96/EC on Waste Electrical and Electronic Equipment (WEEE).

DISCLAIMER

CDIL is a registered Trademark of
Continental Device India Pvt. Limited
C-120 Naraina Industrial Area, New Delhi 110 028, India.
Telephone + 91-11-2579 6150, 4141 1112 Fax + 91-11-2579 5290, 4141 1119
email@cdil.com www.cdil.com
CIN No. U32109DL1964PTC004291