

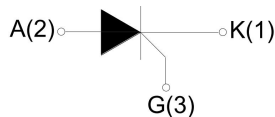
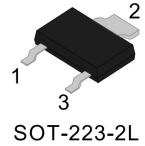
CR03 1.25A SCR_s

FEATURES

- Sensitive gate
- Direct triggering from low power drivers and logic ICs
- Surface mountable package

APPLICATIONS

- Ground Fault Circuit Interrupters (GFCI)
- General purpose switching and phase control
- Ignition circuits, CDI for 2- and 3-wheelers
- Motor control - e.g. small kitchen appliances

Parameters Summary	
VD/VR:1400V IT(RMS):1.25A IGT :20-100μA	
	 <p>SOT-223-2L</p>



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 =25°C)	V _{DRM}	1400	V
Repetitive peak reverse voltage (T =25°C)	V _{RRM}	1400	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	I _{T(RMS)}	1.25	A
Non repetitive surge peak on-state current (180° conduction angle, F=50Hz)	I _{TSM}	20	A
I ² t value for fusing (tp=10ms)	I ² t	2.0	A ² S
Critical rate of rise of on-state current (I =2×IGT, tr ≤ 100 ns)	di/dt	50	A/μS
Peak gate current	I _{GM}	1.0	A
Average gate power dissipation	P _{G(AV)}	0.1	W
Maximum device temperature for solderingPurposes (for 10 seconds maximum)	T _L	260	°C
ESD level	HBM	Class 3 (4000-16000V)	
Humidity sensitive level	MSL	Three-level (30°C, 60%RH, 168h)	

Thermal Resistances			
Symbol	Parameter	Value	Unit
Rth(j-a)	junction to ambient(DC)	60	°C/W
Rth(j-t)	Junction to tab (DC)	25	

ELECTRICAL CHARACTERISTICS (T=25°C unless otherwise specified)					
Symbol	Test Condition	Value			Unit
		MIN.	TYP.	MAX.	
I_{GT}	$V = 12V R = 140\Omega$	20	50	100	μA
V_{GT}		-	0.8	1.0	V
V_{GD}	$V_D = V_{DRM} T_j = 125^\circ C R = 1K\Omega$	0.2			V
I_L	$I_G = 1.2I_{GT}$	-	-	6	mA
I_H	$I_T = 50mA$	-	-	5	mA
dV/dt	$V_D = 600V, R_{GK} = 1K\Omega, T_j = 110^\circ C$	100	-	-	V/ μs

STATIC CHARACTERISTICS				
Symbol	Parameter		Value(MAX.)	Unit
V_{TM}	$I_{TM} = 2.5A t_p = 380\mu s$	$T_j = 25^\circ C$	1.5	V
I_{DRM}	$V_D = V_{DRM} V_R = V_{RRM}$	$T_j = 25^\circ C$	5	μA
I_{RRM}		$T_j = 125^\circ C$	0.5	mA

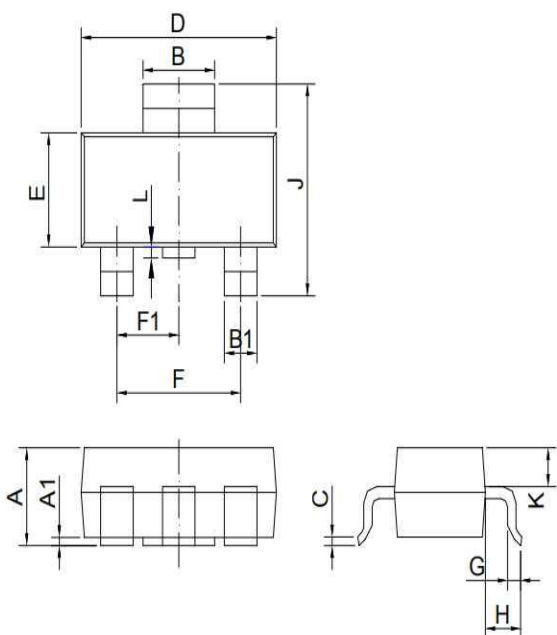
Ordering Information Scheme

CR - 03

Standard SCR series

$I_T(RMS): 1.25A$

SOT-223-2L 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	0.01	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	0.26	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	0.059	0.069	0.079
J	6.7	7.0	7.3	0.264	0.276	0.287
K		0.9			0.035	
L	0	0.1	0.50	0	0.004	0.008

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

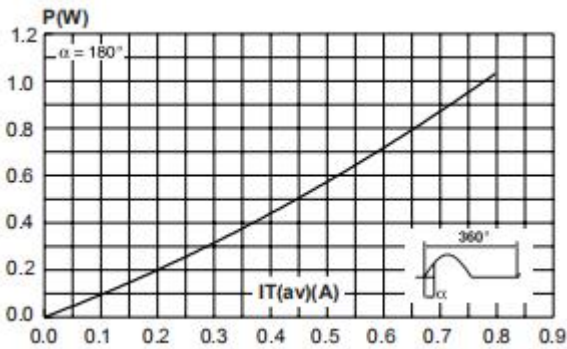


FIG.2: on-state current versus case temperature

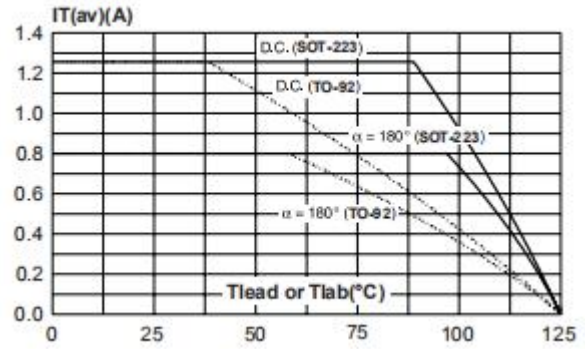


FIG.3: Surge peak on-state current versus number of cycles

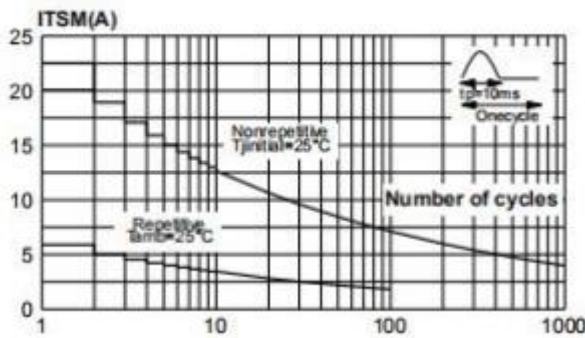


FIG.4: On-state characteristics (maximum values)

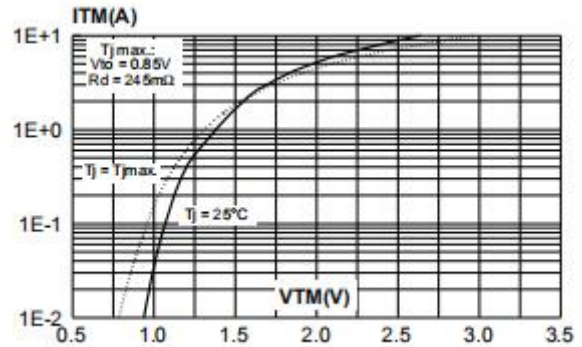


FIG.5: Non-repetitive surge peak on-state current for a sinusoidal pulse with width $t_p < 10\text{ms}$, and corresponding value of $I_2 t$ ($di/dt < 50\text{A}/\mu\text{s}$)

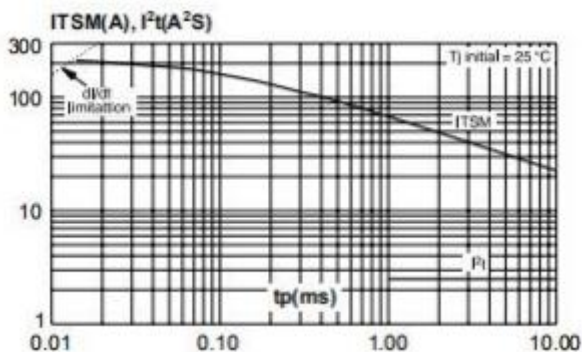


FIG.6: Relative variations of gate trigger current holding current and latching current versus junction temperature

