



CR03AM-12&CR03AM-16

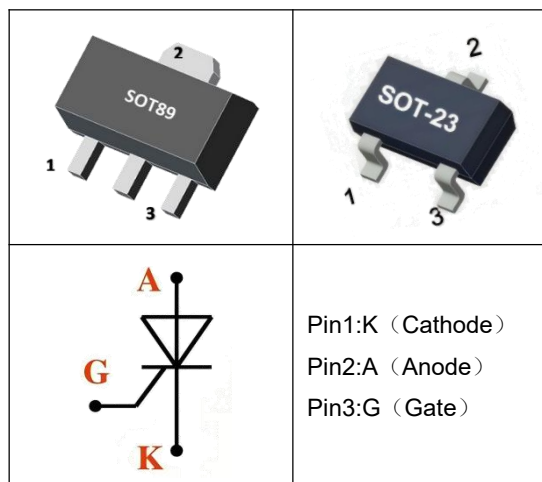
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■ GENERAL DESCRIPTION

The **CR03AM-12&CR03AM-16** is suitable for low power applications.

■ FEATURES

- * IT (AV) : 0.3 A
- * VDRM : 600 V
- * IGT : 100 μ A
- * Non-Insulated Type
- * Glass Passivation Type

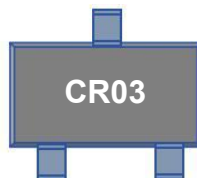


■ MARKING



SOT-89

CR03A=DeVice Code
XXXX=Date Code



SOT-23

CR03A=DeVice Code

■ ABSOLUTE MAXIMUM RATINGS (TC=25°C, unless otherwise specified)

PARAMETER		SYMBOL	RATINGS	UNIT
Repetitive Peak Voltage	CAR03AM-12	VRRM	600	V
	CAR03AM-16	VDRM	800	V
Non-Repetitive Peak Voltage	CAR03AM-12	VRSM	800	V
	CAR03AM-16	VDSM	960	V
DC Voltage	CAR03AM-12	VR(DC)	480	V
	CAR03AM-16	VD(DC)	640	V
Peak Gate Voltage	Forward	VFGM	6	V
	Reverse	VRGM	6	V
Peak Gate Forward Current		IFGM	0.3	A
RMS On-State Current		IT (RMS)	0.47	A
Surge On-State Current (60Hz sine half wave 1 full cycle, peak value, non-repetitive)		ITSM	20	A
Average On-State Current (Commercial frequency, sine half wave 180° conduction, TA = 47°C)		IT(AV)	0.3	A
I2tfor Fusing (Value corresponding to 1 cycle of half wave 60Hz, surge on-state current)		I ² t	1.6	A2s
Peak Gate Power Dissipation		PGM	0.5	W
Average Gate Power Dissipation		PG(AV)	0.1	W
Junction Temperature		TJ	-40 ~ +110	°C
Storage Temperature		TSTG	-40 ~ +125	°C



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■ THERMAL DATA

PARAMETER		SYMBOL	MAX	UNIT
Junction to Ambient	SOT-89	θ_{JA}	180	°C/W
	SOT-23		320	

■ ELECTRICAL CHARACTERISTICS (T_J=25°C, unless otherwise specified)

PARAMETER	SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT
Repetitive Peak Reverse Current	IRRM	T _J = 110°C, VRRM applied			0.1	mA
Repetitive Peak Off-State Current	IDRM	T _J = 110°C, VDRM applied, R _{GK} =1kΩ			0.1	mA
On-State Voltage (T _A = 25°C)	V _{TM}	I _{TM} = 4 A, instantaneous value			1.8	V
Gate Trigger Voltage	V _{GT}	T _J = 25°C, V _D =6 V, I _T = 0.1A			0.8	V
Gate Non-Trigger Voltage	V _{GD}	T _J = 110°C, V _D =1/2 VDRM, R _{GK} =1kΩ	0.2			V
Gate Trigger Current	I _{GT}	T _J = 25°C, V _D =6 V, I _T = 0.1A	1		100	μA
Holding Current	I _H	T _J = 25°C, V _D =12 V, R _{GK} = 1kΩ		1.5	3	mA

Note: If special values of I_{GT} are required, choose item D or E from those listed in the table below if possible.

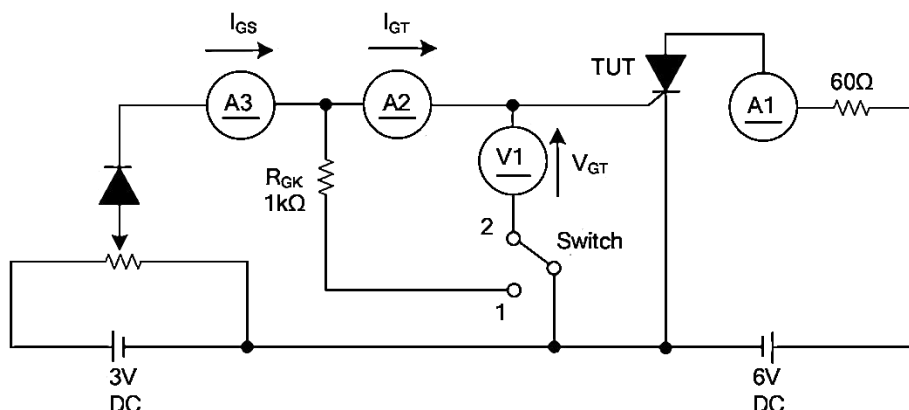
■ CLASSIFICATION OF I_{GT}

RANK	A	B
RANGE	1 ~ 50	20 ~100

Note:

- If special values of I_{GT} are required, choose item A or B from those listed in the table below if possible.
- The above values do not include the current flowing through the 1kΩ resistance between the gate and cathode.

■ I_{GT}, V_{GT} MEASUREMENT CIRCUIT



Switch 1: I_{GT} Measurement
Switch 2: V_{GT} Measurement
(Inner resistance of voltage meter is about 1kΩ)

$$\frac{\text{Gate Trigger Current (T}_j = t)}{\text{Gate Trigger Current (T}_j = 25)} \times 100\%$$

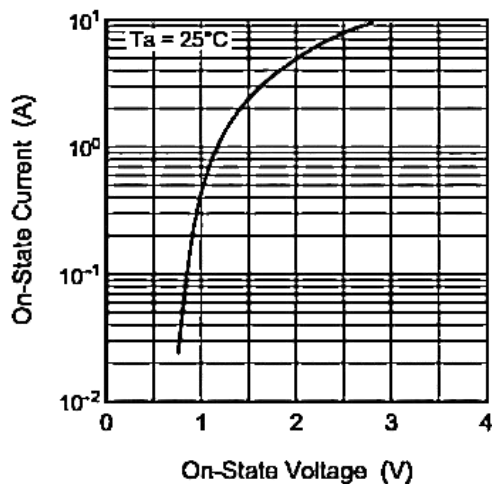


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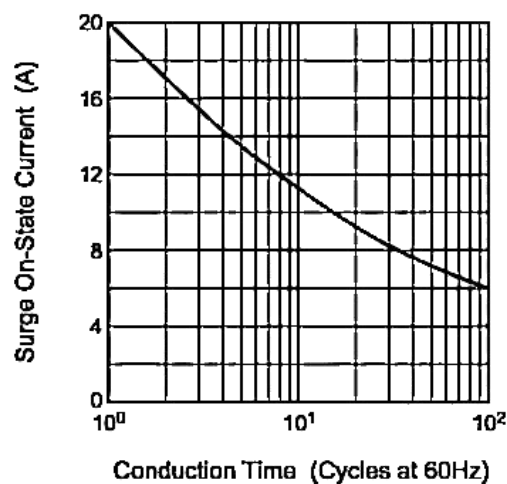
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■ TYPICAL CHARACTERISTICS

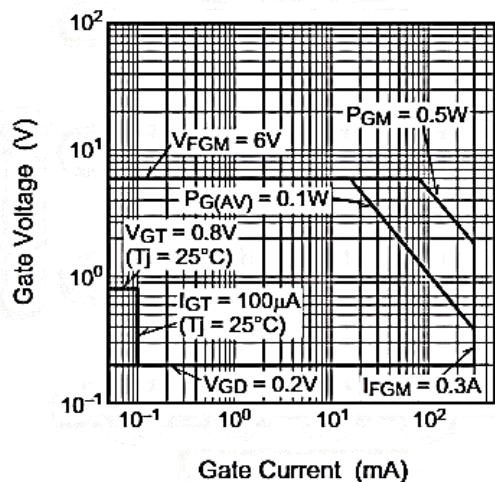
Maximum On-State Characteristics



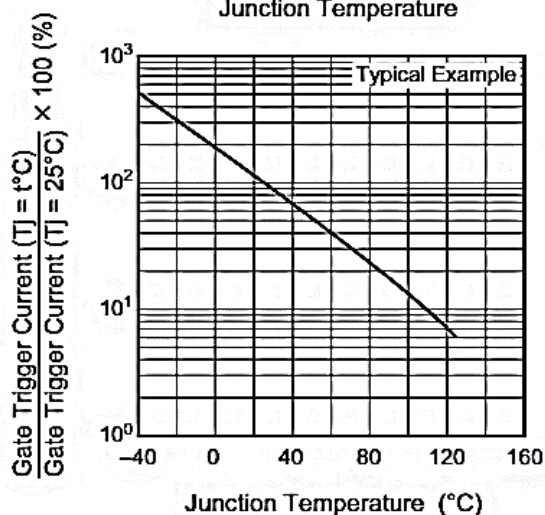
Rated Surge On-State Current



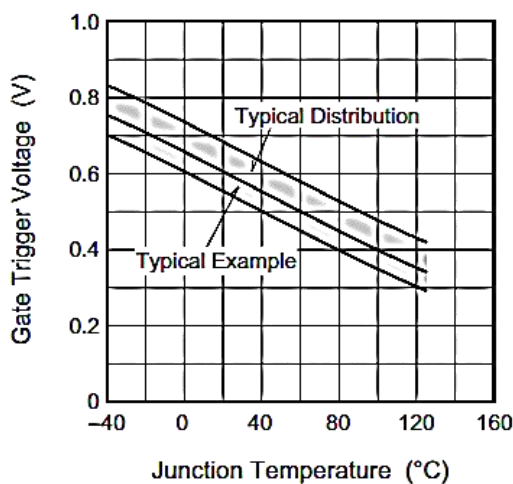
Gate Characteristics



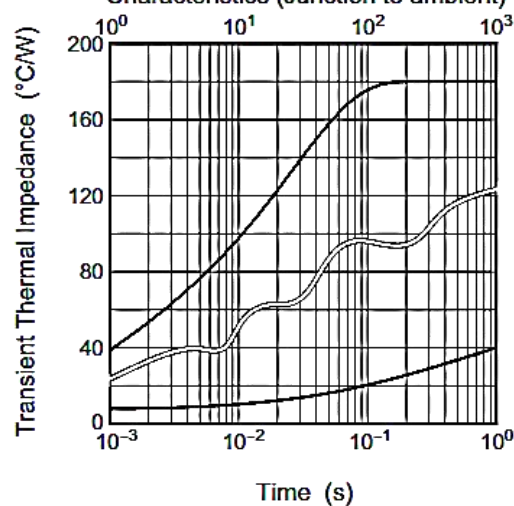
Gate Trigger Current vs. Junction Temperature



Gate Trigger Voltage vs. Junction Temperature



Maximum Transient Thermal Impedance Characteristics (Junction to ambient)

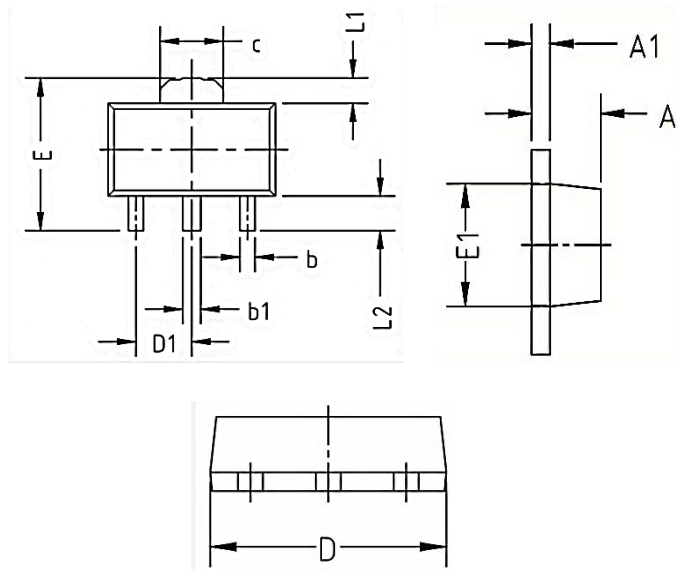




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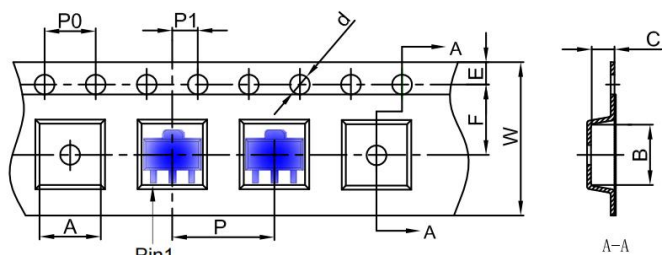
SOT89 PACKAGE OUTLINE DIMENSIONS



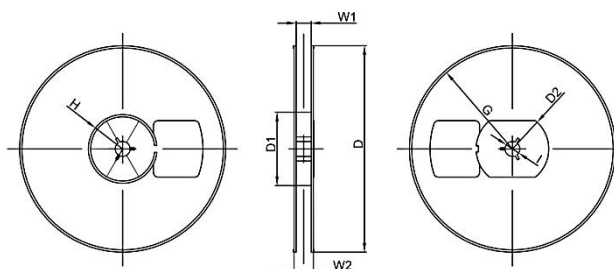
COMMON DIMENSION(MM)			
PKG	SOT-89		
Symbol	MIN	MON	MAX
A	1.450	1.500	1.550
A1	0.350	0.400	0.450
b	0.350	0.400	0.48
b1	0.430	0.480	0.550
C	1.500	1.550	1.650
D	4.450	4.550	4.700
D1	1.470	1.500	1.550
E	4.100	4.200	4.300
E1	2.500	2.550	2.650
L1	0.650	0.700	0.750
L2	0.900	0.950	1.000

SOT89 PACKAGING INFORMATION

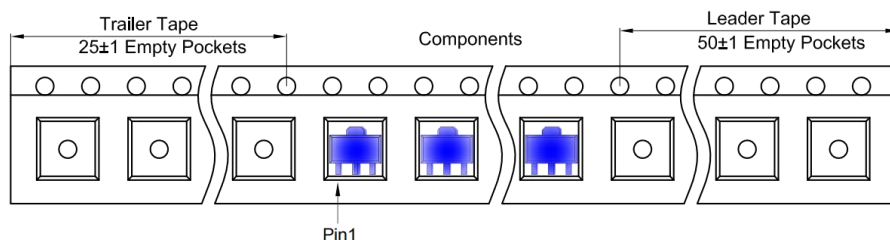
SOT-89 Embossed Carrier Tape



SOT-89 Reel



SOT-89 Tape Leader and Trailer



REEL	Reel Size
1000 pcs	7 inch

Dimensions are in millimeter										
Pkg type	A	B	C	d	E	F	P0	P	P1	W
SOT-89-3L	4.85	4.45	1.85	Ø1.50	1.75	5.50	4.00	8.00	2.00	12.00

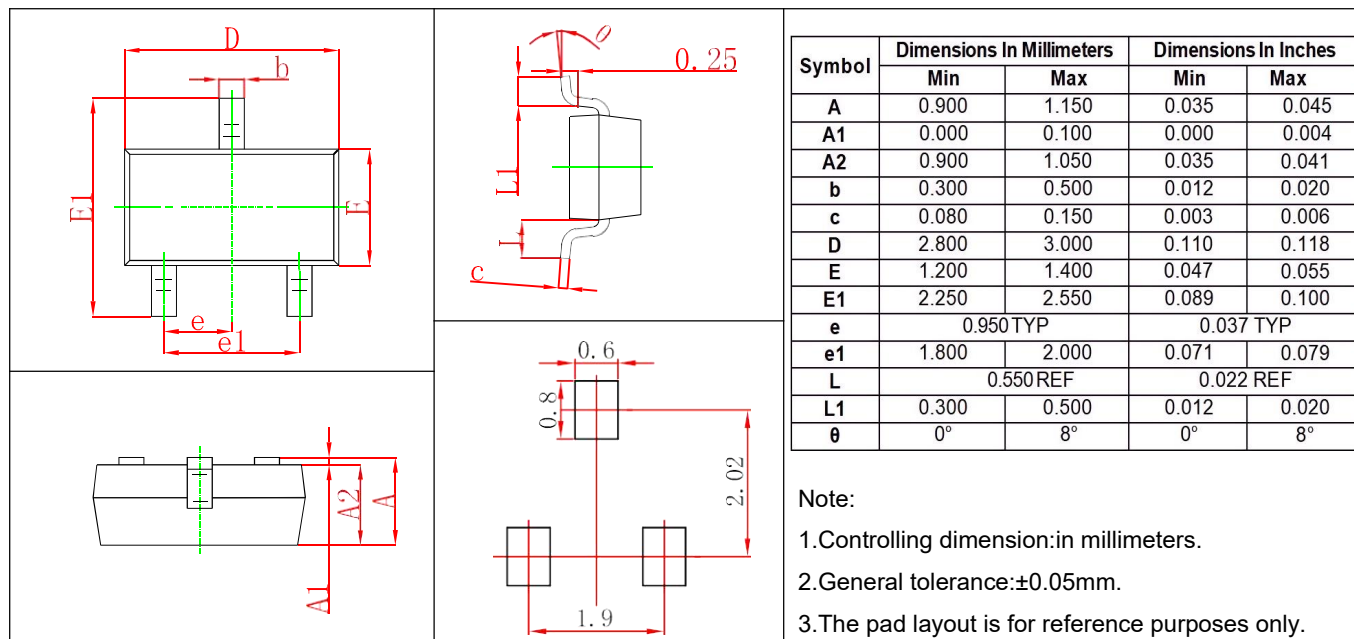
Dimensions are in millimeter								
Reel Option	D	D1	D2	G	H	I	W1	W2
7" Dia	Ø180.00	60.00	R32.00	R86.50	R30.00	Ø13.00	13.20	16.50



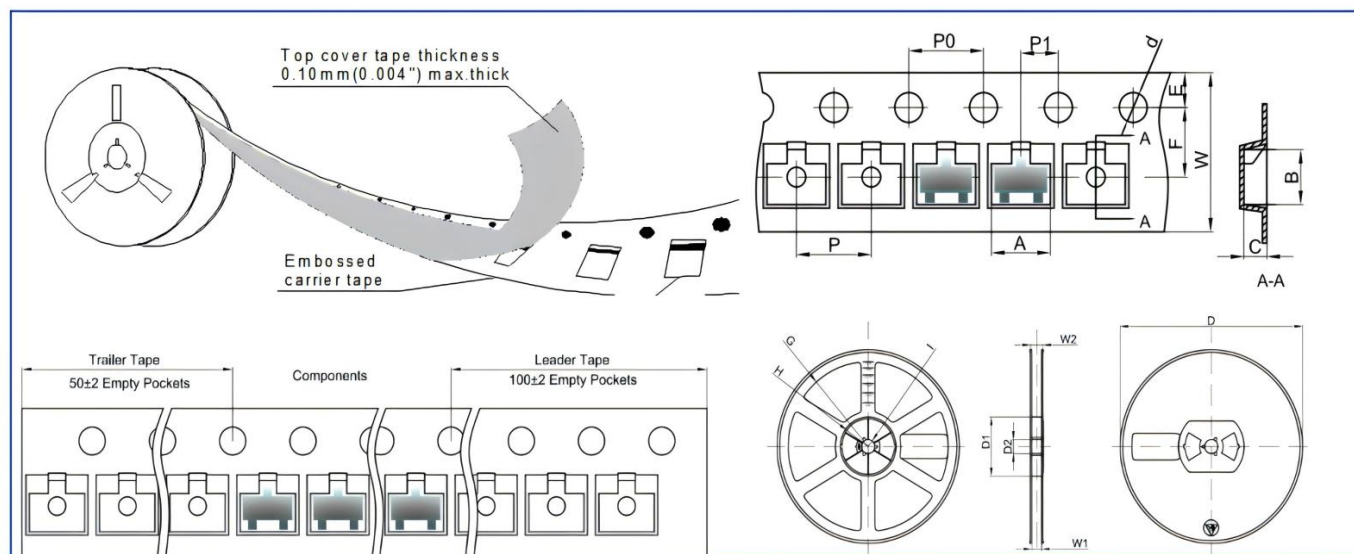
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■ SOT23 PACKAGE OUTLINE DIMENSIONS



■ REEL PACKING



Dimensions are in millimeter										
PKG TYPE	A	B	C	d	E	F	Po	P	P1	W
SOT-23	3.15	2.77	1.22	Φ1.50	1.75	3.50	4.00	4.00	2.00	8.00
Reel Optiom	D	D1	D2	G	H	I	W1	W2	Q.TY PER REEL	
7" Dia	Φ178.0	54.40	13.00	R78.00	R25.60	R6.50	9.50	12.30	3000PCS	
13"Dia	φ330.0	/	13.00	/	/	R6.50	9.50	12.30	10000PCS	