

CR03AM-16A

800V-0.3A-Thyristor

Low Power Use

R07DS0987EJ0300

Rev.3.00

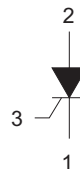
Sep 11, 2013

Features

- $I_{T(AV)}$: 0.3 A
- V_{DRM} : 800 V
- I_{GT} : 100 μ A
- Planar Type

Outline

RENESAS Package code: PRSS0003EA-A
(Package name: TO-92*)



1. Cathode
2. Anode
3. Gate

Applications

Leakage protector, timer, and gas igniter

Maximum Ratings

Parameter	Symbol	Voltage class	Unit
		16	
Repetitive peak reverse voltage	V_{RRM}	800	V
Non-repetitive peak reverse voltage	V_{RSM}	960	V
DC reverse voltage	$V_{R(DC)}$	640	V
Repetitive peak off-state voltage ^{Note1}	V_{DRM}	800	V
Non-repetitive peak off-state voltage ^{Note1}	V_{DSM}	960	V
DC off-state voltage ^{Note1}	$V_{D(DC)}$	640	V

Notes: 1. With gate to cathode resistance $R_{GK}=1\text{ k}\Omega$

Parameter	Symbol	Ratings	Unit	Conditions
RMS on-state current	$I_{T(RMS)}$	0.47	A	
Average on-state current	$I_{T(AV)}$	0.3	A	Commercial frequency, sine half wave 180° conduction, $T_a=62^\circ\text{C}$
Surge on-state current	I_{TSM}	20	A	60Hz sine half wave, 1full cycle, peak value, non-repetitive
I^2t for fusing	I^2t	1.6	A^2s	Value corresponding to 1cycle of half wave 60Hz, surge on-state current
Peak gate power dissipation	P_{GM}	0.5	W	
Average gate power dissipation	$P_{G(AV)}$	0.1	W	
Peak gate forward voltage	V_{FGM}	6	V	
Peak gate reverse voltage	V_{RGM}	6	V	
Peak gate forward current	I_{FGM}	0.3	A	
Junction temperature	T_j	- 40 to +125	$^\circ\text{C}$	
Storage temperature	T_{stg}	- 40 to +125	$^\circ\text{C}$	
Mass	—	0.23	g	Typical value

Electrical Characteristics

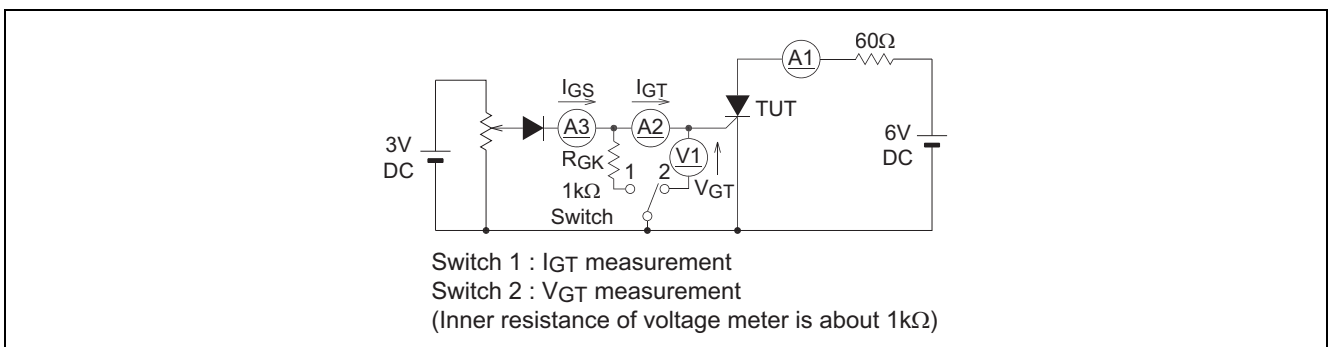
Parameter	Symbol	Min.	Typ.	Max.	Unit	Test conditions
Repetitive peak reverse current	I_{RRM}	—	—	0.1	mA	$T_j = 125^\circ\text{C}$, V_{RRM} applied
Repetitive peak off-state current	I_{DRM}	—	—	0.1	mA	$T_j = 125^\circ\text{C}$, V_{DRM} applied $R_{GK} = 1\text{ k}\Omega$
On-state voltage	V_{TM}	—	—	1.8	V	$T_j = 25^\circ\text{C}$, $I_{TM} = 4\text{ A}$ instantaneous value
Gate trigger voltage	V_{GT}	—	—	0.8	V	$T_j = 25^\circ\text{C}$, $V_D = 6\text{ V}$, $I_T = 0.1\text{ A}$ ^{Note3}
Gate non-trigger voltage	V_{GD}	0.2	—	—	V	$T_j = 125^\circ\text{C}$, $V_D = 1/2 V_{DRM}$ $R_{GK} = 1\text{ k}\Omega$
Gate trigger current	I_{GT}	1 ^{Note2}	—	100 ^{Note2}	μA	$T_j = 25^\circ\text{C}$, $V_D = 6\text{ V}$, $I_T = 0.1\text{ A}$ ^{Note3}
Holding current	I_H	—	—	3	mA	$T_j = 25^\circ\text{C}$, $V_D = 12\text{ V}$, $R_{GK} = 1\text{ k}\Omega$
Thermal resistance	$R_{th(j-a)}$	—	—	180	$^\circ\text{C/W}$	Junction to ambient

Notes: 2. If special values of I_{GT} are required, choose item A, B, D or E from those listed in the table below if possible.

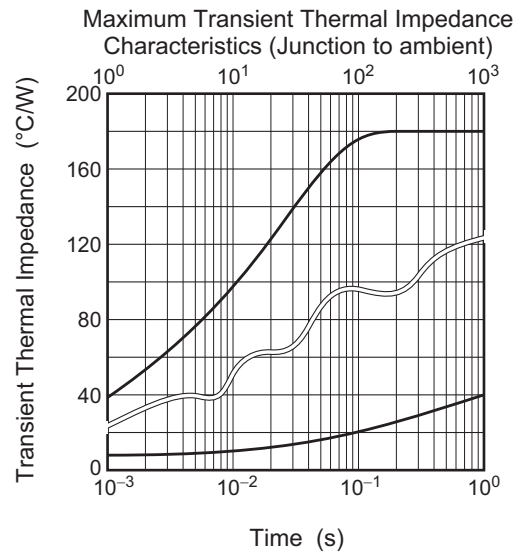
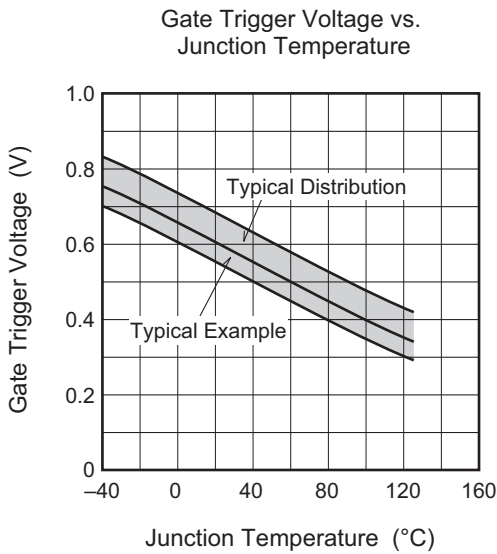
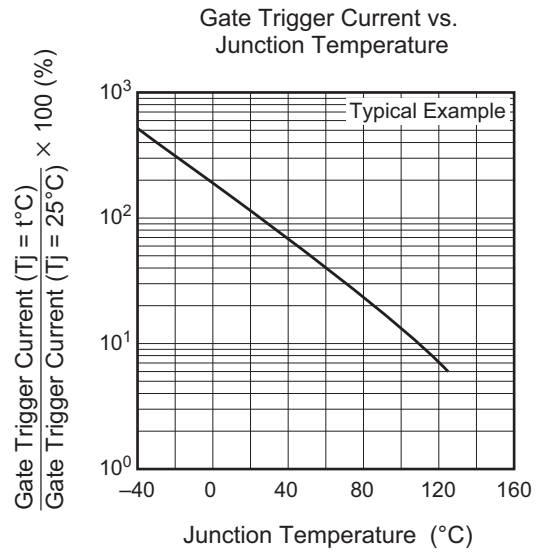
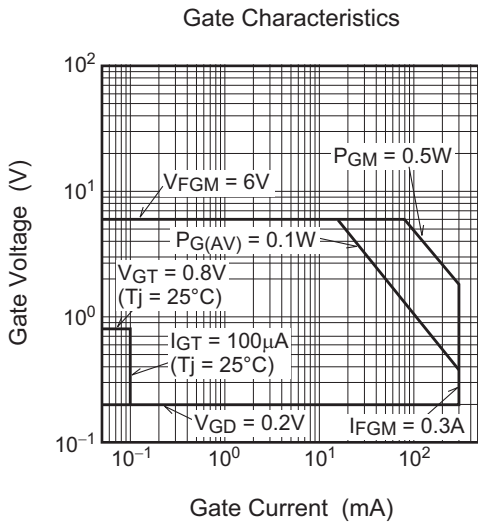
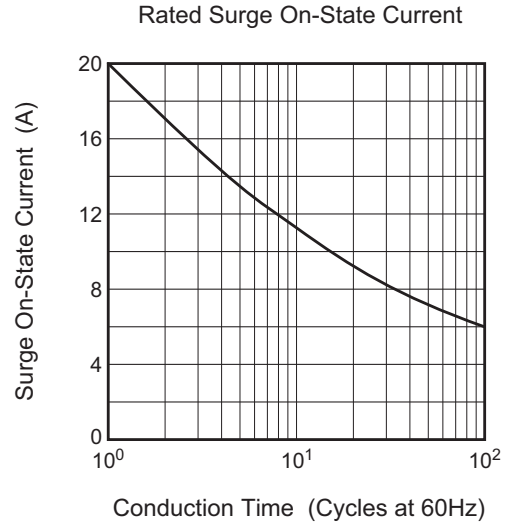
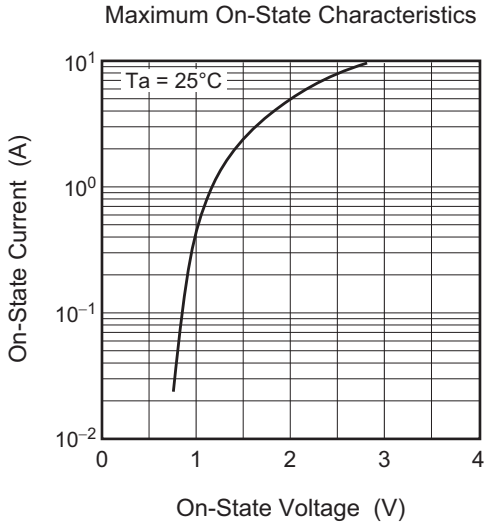
Item	A	B	D	E
I_{GT} (μA)	1 to 30	20 to 50	1 to 50	20 to 100

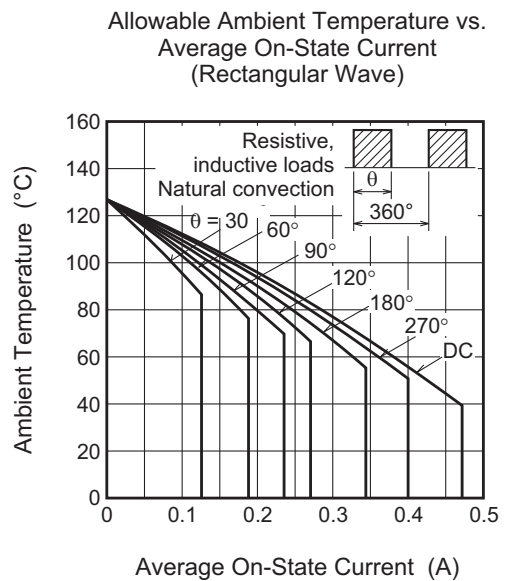
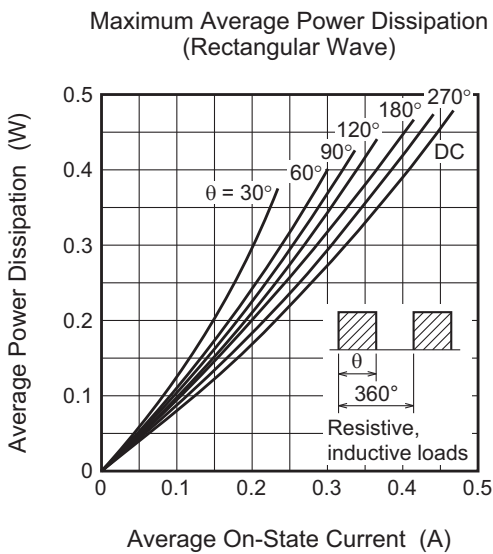
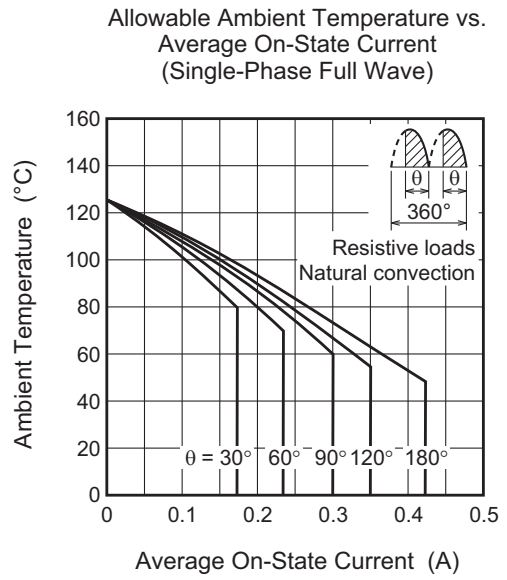
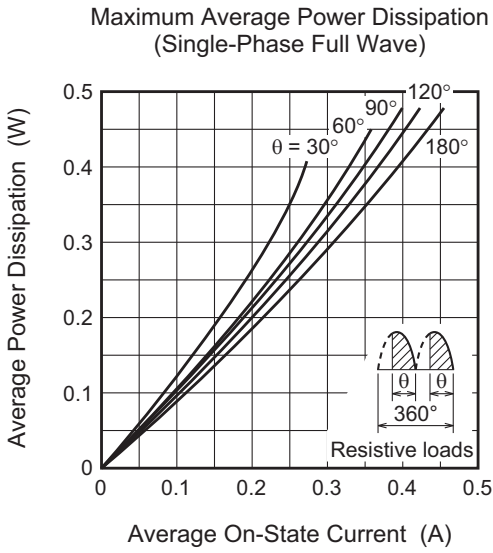
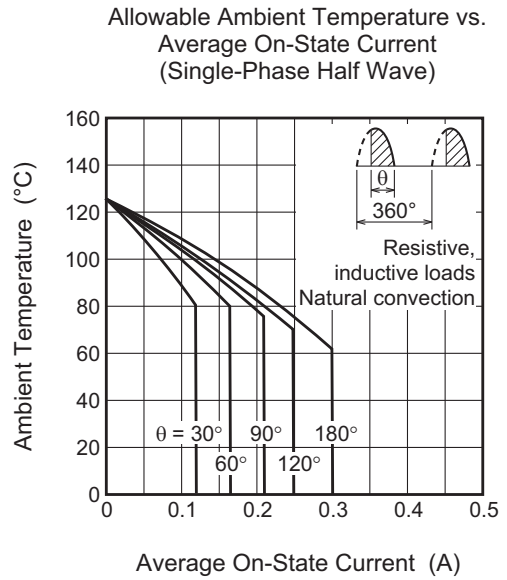
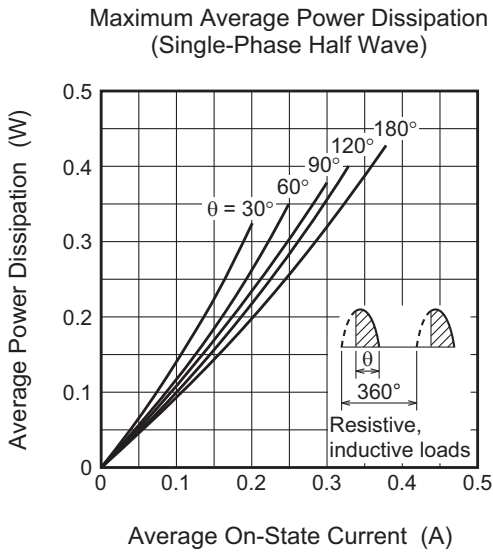
The above values do not include the current flowing through the 1 k Ω resistance between the gate and cathode.

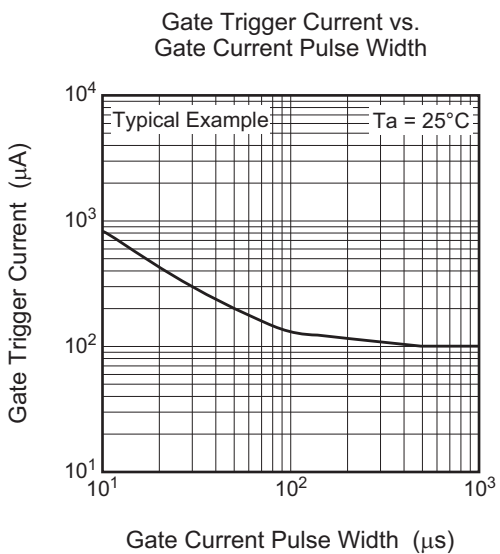
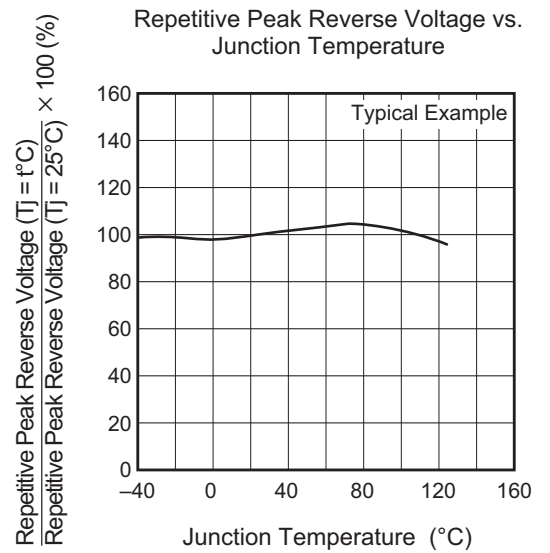
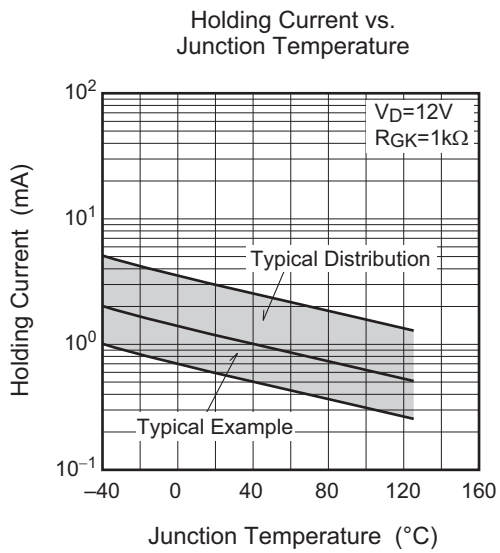
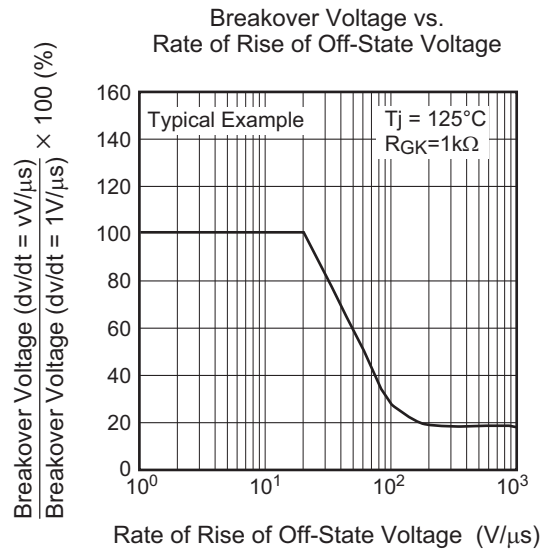
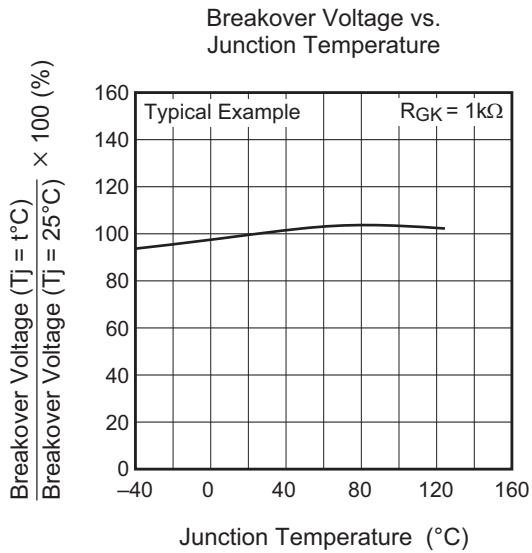
3. I_{GT} , V_{GT} measurement circuit.



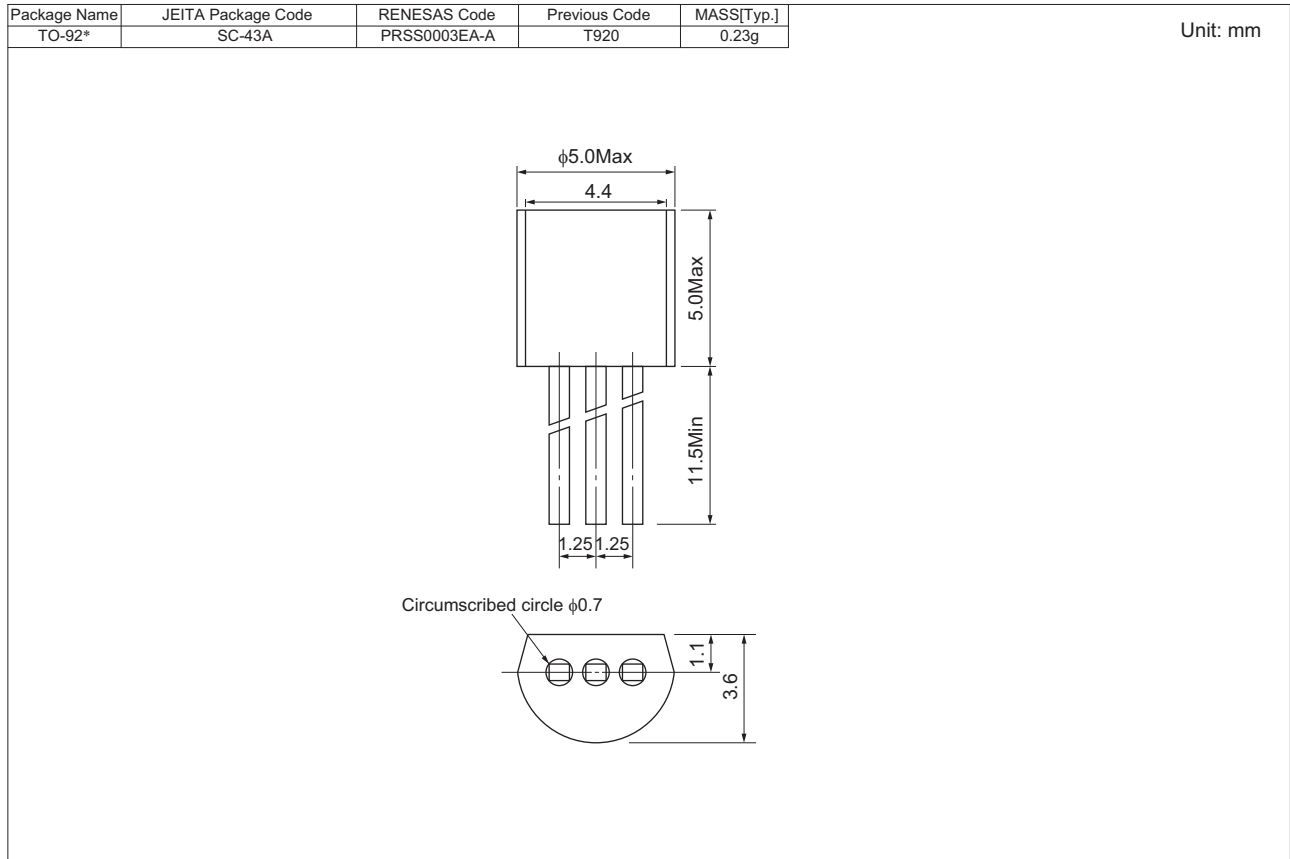
Performance Curves







Package dimensions



Ordering Information

Orderable Part Number	Packing	Quantity	Remark
CR03AM-16A#B00	Bag	500 pcs.	Straight type
CR03AM-16A-B#B00	Bag	500 pcs.	Straight type, IGT item : B
CR03AM-16A-A6#B00	Bag	500 pcs.	A6 Lead form
CR03AM-16A-TB#B00	Adhesive Tape	2000 pcs.	A8 Lead form
CR03AM-16A-BTB#B00	Adhesive Tape	2000 pcs.	A8 Lead form, IGT item : B

Note : Please confirm the specification about the shipping in detail.

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